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PAPER TRADE JOURNAL

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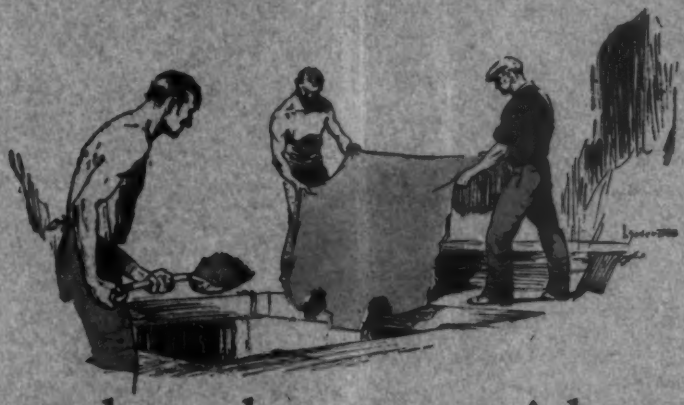
Vol. LXXXIV, No. 25 JUNE 23, 1927 Per annum $4.00 Per Copy 10 Cents



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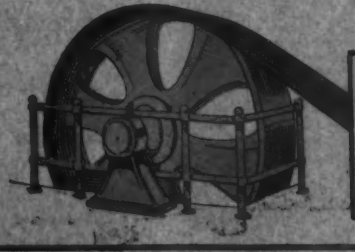

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PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-FIFTH YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

LESLIE R. PALMER, President — GEO. S. MACDONALD, Vice-President & Treas. — F. K. HOPPIE, Secretary

Executive and Editorial Offices: 10 East 39th Street, New York
Chicago Office: Room 14, Suite 410, 123 West Madison St.

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Users of Daytons Swear by Daytons

Name	Location	No. Beaters Installed
Aetna Paper Company	Dayton, Ohio	2
Allied Paper Mills	Kalamazoo, Mich	2
Auglaize Box Board Co.	St. Marys, Ohio	2
D. M. Bare Paper Co.	Roaring Spring, Pa	2
Beckett Paper Co.	Hamilton, Ohio	6
Berwin Paper Corp.	Dansville, N. Y.	4
Beveridge Paper Co.	Indianapolis, Ind.	5
Emerson Carey Fibre Products Co.	Hutchinson, Kans.	8
Philip Carey Mfg. Co.	Lockland, Ohio	1
Castanea Paper Co.	Johnsonburg, Pa.	14
Champion Coated Paper Co.	Hamilton, Ohio	40
Champion Fibre Co.	Canton, N. C.	11
Clifton Paper Mills	Passaic, N. J.	5
Crystal Tissue Co.	Middletown, Ohio	4
Deerfield Valley Paper Co.	Monroe Brdg., Mass	5
Fox Paper Co.	Lockland, Ohio	1
Fraser Paper, Ltd.	Madawaska, Me.	6
French Paper Co.	Niles, Mich.	4
Robert Gair Co.	New London, Conn.	6
Halifax Paper Corp.	Roanoke Rapids, N. C.	1
Howard Paper Co.	Urbana, Ohio	3
Inland Paper Board Co.	Versailles, Conn.	2
Jaite Company	Jaite, Ohio	8
Kalamazoo Veg. Parchment Co.	Kalamazoo, Mich	10
Lincoln Paper Mills	Elkhart, Ind.	3
Maxwell Paper Co.	Franklin, Ohio	3
Mead Fibre Co.	Kingsport, Tenn.	3
Miamisburg Paper Co.	Miamisburg, Ohio	2
Mid West Box Co.	Circleville, Ohio	6
New York & Pennsylvania Co.	Lock Haven, Pa.	2
North Star Strawboard Mills	Quincy, Ills.	12
Oglesby Paper Co.	Middletown, Ohio	11
Rex Paper Co.	Kalamazoo, Mich.	3
Paul A. Sorg Paper Co.	Middletown, Ohio	15
Standard Paper Mfg. Co.	Richmond, Va.	3
Thompson & Norris Co.	Brookville, Ind.	1
Tidewater Paperboard Co.	Norwich, Conn.	1
United Paperboard Co.	Lockport, N. Y.	4
United Paperboard Co., Inc.	Peoria, Ill.	4
Upson Company	Lockport, N. Y.	1
Valve Bag Co., of America	Oakmont, Pa	1
Western Board & Paper Co.	Kalamazoo, Mich.	8
West Virginia Pulp & Paper Co.	Covington, Va.	10
West Virginia Pulp & Paper Co.	Williamsburg, Pa.	7
E. C. Robertson & Co., Div.	Hinsdale, N. H.	2
Hinsdale Paper Mfg. Co.	Hinsdale, N. H.	2
Fisk Paper Company	Hinsdale, N. H.	1
Otter River Board Co.	Otter River, Mass.	1
Robert Gair Co.,	Tonawanda, N. Y.	5
Robert Gair Co.,	Piermont, N. Y.	6
Robert Gair Co.	Haverhill, Mass.	2
Canadian Paper Board Co.	Montreal, Canada	1
Bogota Paper & Board Co.	Bogota, N. J.	6
Continental Paper Co.	Bogota, N. J.	6
Parker-Young Company	Lincoln, N. H.	1
Rockford Paper Box Board Co.	Rockford, Ill.	5
National Gypsum Company	Buffalo, N. Y.	2
Wallabout Paper Specialties Corp.,	Lansdowne Pa.	1
Warren Mfg. Co.,	Milford, N. J.	1
Penn Fibreboard Corp.	York, Pa.	1
Moore & Thompson Paper Co.,	Bellows Falls, Vt.	4
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PAPER TRADE JOURNAL

With Which Is Combined

PAPER

The Magazine of the Paper Industry

Vol. LXXXIV, No. 25 Thursday, June 23, 1927

Plan and Objective of New Power Plant Section

Paper Trade Journal Will Regularly Run New Department Conducted by Reginald Trautschold, Consulting Engineer, Which Will Furnish Exposition of How Power Cost Reductions are Effected and How They Benefit the Mill—Such Economics Constitute Real Savings, Insure Greater Profit, and Stabilize Production Costs

One of the outstanding men of the paper industry expressed the opinion recently that a very substantial proportion of the great strides made in paper production during the past few years is attributable to the equipment sold to the paper industry by other industries. That is, equipment which is not essentially of a paper making character.

In the paper mill proper, this refers largely to the introduction of modern power plant equipment, the industrial equipment, to distinguish it from paper making machinery and supplies, which constitutes the basic power plant of the mill. When this power equipment functions smoothly, efficiently and economically, the refinements of paper making, pulp production, etc., can be carried forward effectively, production costs are reduced, output is stimulated, dividends are paid and profits earned. When anything goes wrong in the power plant, on the other hand, or when the plant does not function to the best advantage, costs of all kinds soar, production drops and profits invariably shrink.

There is nothing at all unique in this situation, it is more or less common in all industries, but it is particularly pertinent in the paper making field, which is essentially an integral industry. Paper mills are mainly isolated establishments, located in many instances far from centers of trade and sources of equipment supply. Furthermore, the industry is one with little idle time, the power plants running virtually continuously, 24 hours a day, throughout the year. Under such circumstances, the importance of the paper mill power plant assumes proportions far overshadowing the relative monetary rank of power as an item in paper production costs.

The Power Plant's Importance

The power plant is indeed the backbone of the paper mill, and it is in such department, which really has nothing to do with actual processes in paper production, that wastes and inefficiencies are perhaps most acutely detrimental. Power plant ailments are veritable malignant growths which fester and can readily undermine the whole paper making structure. Invariably, they disclose themselves in aggravated production costs. Furthermore, no paper mill power plant, the most modern and up-to-date or one of ancient and more or less obsolete type, is entirely immune from such weaknesses. They may develop anywhere at any time.

This is no exaggerated portrayal of the dangers continually hovering about the power plant, nor is it an extravagant exposition of the importance of managerial attention to all matters pertaining to the production of power. True, the power problem is an engineering question. The considerations of cost of power, of the expense of results secured with the equipment which generates and distributes the power, however, are also chiefly economic and hence properly management responsibilities.

Unfortunately, there is no universal prescription for curing or arresting these insidious power house ailments. No one type of power plant can be devised which will insure minimum power production costs under all conditions.

Caring for the Power Plant

The power producing structure is a close knit combination of varied and various equipment, each unit of which has an important function to render in harmonious relation to the work of every other unit. When one fails or does not respond effectively to the demands which may be placed upon it, the others are almost certain to be influenced adversely.

To arrest such tendencies successfully, to remedy power equipment ailments of any kind or to improve unsatisfactory operations in power production, may mean radically different treatment in different cases. Equipment, the corrective, which overcomes the difficulty or mitigates some aggravated inefficiency in one case may not be so effective in another, despite all earmarks of similarity. A rule-of-thumb, an empirical, determination of the trouble, rather than scientific diagnosis, is frequently entailed. In fact, most reductions in power production costs are arrived at through adapting to the particular needs of one plant the practices, methods and equipment which have demonstrated their effectiveness in other plants.

It is this unscientific practice, looking at the question from a dollar and cent point of view, which goes far to place the responsibility for power production in managerial, rather than in engineering, hands. By management, the ailments of the power plant are taken up separately as their symptoms are recognized and are subjected to what may be termed "unit treatment."

To management, it is not how or why results are secured which commands first consideration, but the results themselves, however arrived at. This does not mean that scientific and technical considerations are disregarded, rather that such matters are left largely to the manufacturers of the equipment, and management concerns itself chiefly with what the equipment will do under conditions similar to those encountered in the plant it directs and, naturally, with what the equipment will cost and what returns may be reasonably anticipated.

Service to the Paper Mills

So convinced is PAPER TRADE JOURNAL that it is through the unit treatment of these power plant inefficiencies which may so influence production costs, from which no power plant can be entirely free, that paper mill operators can best solve their individual power cost problems and reduce overhead expenses that it proposes to discuss the subject regularly in subsequent alternate issues. The discussions will each treat with a separate unit equipment in power production or distribution, not in a technical manner, but in commercial terms. They will be in the nature of surveys of demonstrated economies effected through the use of modern power plant equipment.

Costs will be considered; improvements realized featured; capital investments involved presented; annual savings effected recorded; and the return on the investment shown, so far as is feasible. Each installment will take up several varieties of the same general type of equipment in use in power plants of various capacity, operating under typical, but dissimilar, conditions.

The economies effected, while they cannot always be resolved to a common comparable basis since such improvements are of necessity relative, will be so featured that among the cases cited mill operators should find the solution to some power cost burden more or less analogous to one handicapping their own plants and be able ot weigh the advisability of making some change, to decide whether the probable capital investment entailed can reasonably be counted upon to earn a satisfactory return.

Technicalities will be avoided so far as may be without undue sacrifice of clarity, since the results secured in service with modern approved equipment may be accepted as a guarantee that the engineering features of the equipment are satisfactory. By avoiding the usual mist of technical explanation, rather holding the manufacturer of the equipment responsible for engineering requirements, the monetary aspect of the surveys is emphasized.

Topics To Be Treated

All varieties of power plant equipment will be discussed, large and small, those entailing considerable capital investment and devices which are less costly. The one requirement will be that the suitable employment of the equipment of modern approved type offers opportunities of production cost reduction. The topic may treat with some relatively inexpensive device for controlling heat losses; more costly prime movers representing advanced development in engine or turbine construction; a question of minimizing losses from journal friction; instruments for the control, regulation and direction of power media, in fact, any device employed in the modern power plant, the installation ot which is essential or a good investment.

Cooperation Essential

The successful carrying forward of such a scheme will necessitate, of course, cooperative action on the part of the paper mills and the manufacturers of power plant equipment. Such condition is not only essential, but it should pay these participants handsomely.

The response of equipment manufacturers to requests for information concerning their products is pretty well assured from purely selfish motives. It is only by rendering such service, such assistance to possible purchasers of their equipment, that their best interests are furthered and their business expanded. The manufacturer of power plant equipment who will not gladly supply authentic evidence of the economic value of his products has little chance of prospering in these days of keen competition, organized merchandising methods and modern trade policies. However, willing as they may be to assist in the undertaking, the manufacturers alone cannot discharge in full the contemplated service.

Trustworthy as doubtless will be the information they supply, substantiating evidence from the paper trade field concerning the monetary value of the equipment in actual service, economies and betterments effected through the proper use of the equipment, money saved, etc., is needed. It is in supplying this corroborating testimony that the progressive paper mills will figure prominently. Response from the trade paper field should be generous, for the trade has by far the most to gain from such cooperation.

While the manufacturer of power plant equipment can only hope to benefit financially to the extent of the profit he may make upon the sale of any equipment he may negotiate, the paper mill stands to capitalize far more. The latter's returns are not confined to any legitimate rate of profit upon the purchase price of the equipment, or on its cost of production, as is that of the manufacturer, but upon the economic value of the equipment in the mill's activities. Where the manufacturer may make a dollar, the paper mill purchaser should make several dollars. The bases of computation and rate of return are as dissimilar as black is to white.

Will Help To Stabilize Expenses

No paper mill has anything to lose through divulging information concerning its power production costs or in respect to any expenses incurred in connection with power generation or distribution. On the contrary, it should benefit by so doing, for the result is a tendency to stabilize expenses in at least one production cost item. No mill has ever profited for long through inefficient conduct of the power plant of a competing mill. There are no power production secrets today, nor are preventable wastes contracted in any power plant beneficial to the conduct of any other power plant. Trade rivalry which locks the power house door has proved time and time again to be distinctly expensive.

Will React to Common Advantage

Power production, in any case, is a side issue with a paper mill. It is a burden which must be borne by big and little alike, by the efficient and inefficient, but it is not paper making. It entails no trade secrets and the little mill power plant may discharge some process in power production more efficiently and at a lower unit expense than the power plant of the large establishment. An interchange of information can only react to the advantage of all.

Tentative Schedule

The tentative schedule of articles to be handled in this series of discussions is as follows:

Introductory Article—Explanatory
Boiler Room Equipment—Damper Regulators
Engine Room Equipment—Unaflow Engines
Transmission Equipment—Anti-Friction Bearings
Electrical Equipment—Instruments
Boiler Room Equipment—Superheaters and Economizers
Speed Reducers
Engine Room Equipment—Turbines, Steam
Conveying Equipment
Transmission Equipment—Variable Speed
Boiler Room Equipment—Stokers
Electrical Equipment—Recording Instruments
Lubrication
Engine Room Equipment—Turbines, Hydraulic
Gearing
Weighing equipment—Conveying Equipment
Boiler Room Equipment—Feed Water Regulators
Transmission Equipment—Chain Drives, Silent
Electrical Equipment—Motors and Generators
Gearing—Heavy Duty
Engine Room Equipment—Special Instruments
Conveying Equipment—Trucks
Lubrication—Equipment
Boiler Room Equipment—Steam Flow Meters
Transmission Equipment—Belting
Electrical Equipment—Instruments

St. Regis to Erect New Mill at Cap Rouge

Work To Begin During Summer Months and Power To Be Supplied by Shawinigan Water & Power Co.—Arrangements Made With Federal Authorities for Construction of Wharves Where Timber Will Be Shipped and Paper Output Handled

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., June 20, 1927.—The St. Regis Paper Company has definitely decided to erect new mills at Cap Rouge, Quebec, and has completed arrangements with the federal authorities in connection with the construction of certain wharves where its timber will be shipped and its paper handled. The mills, according to the original plans, were to have an ultimate capacity of 400 tons of news print, but it is now rumored that the company intends to utilize a portion of the mills for the manufacture of rayon. Work will start in the course of the summer. Power will be supplied by the Shawinigan Water and Power Company, whose high voltage lines pass in close proximity.

Contracts Awarded for Laboratory

Contracts have been awarded for the construction of the Pulp and Paper Research Laboratory to be erected under a joint arrangement between the Canadian Pulp and Paper Association and McGill University, and work will start as soon as possession can be had of the site on University street. It is expected that the building will be completed by the end of the year. The contracts total $197,311, and were awarded as follows: Architects, Nobbs & Hyde; consulting engineers, F. A. Combe and E. A. Ryan. general contractors, E. G. M. Cape & Co.; heating plumbing, steam and gas fitting, John Calford; heat installation work, Asbestos, Ltd.; electric wiring, Canadian Comstock Company, Ltd.; ventilation, McFarlane, Douglas Company, Ltd.; demolition of old building, W. J. Lajeunnesse.

In addition to the Canadian Pulp and Paper Association, the new laboratory will house the department of cellulose and industrial chemistry of McGill University, which is in charge of Dr. Harold Hibbert.

The members of the Canadian Pulp and Paper Research Corporation, under whose direction the new building is being constructed are: L. R. Wilson, Abitibi Power and Paper Co., Limited, president; Edward Beck, Canadian Pulp and Paper Association, secretary, and C. Howard Smith, Howard Smith Paper Mills Ltd.; Carl Riordon, Riordon Pulp Corporation, Ltd.; George M. McKee, St. Maurice Corporation, and John W. Ross, McGill University, directors.

Donnacona's New Power Plant

A. J. F. Montabone has been appointed consulting engineer in charge of the new 8,000 h. p. hydro-electric development of the Donnacona Paper Company, Ltd., on the Jacques Cartier River, Quebec. This, when completed, will increase by over 50 per cent the electric energy of the Donnacona Company, and will take care of their increased tonnage expansion.

Seeds of Forest Trees

Increasing importance is attached to the seed extraction plants established by the Forest Service of the Dominion Department of the Interior, which are supplyinng seed for experimental and reforestation work in the forest reserves and elsewhere. There is a large plant at Vancouver, B. C., and others at Rocky Mountain House, Alta., and at Indian Head and Prince Alberta, Sask.

In the year 1926 about 11,000 pounds (five and a half tons) of seed was obtained from these different establishments. Of this quantity about 1,500 pounds was Sitka spruce seed. A little arithmetic will show the possible number of trees that may spring from this quantity of seed. Over three tons (more precisely, 6,400 pounds) of western yellow pine seed, 1,700 pounds of Douglas fir seed, 500 pounds of western cedar seed, about the same quantity of white spruce seed, and 151 pounds of jack pine seed were also produced. Much of this seed is destined for use in reforestation work in the British Isles. New Zealand also has taken a large quantity of the seed of Canadian trees for her reforestation work.

The Sitka spruce, a tree of Canada's western sea-coast, attains a height of 160 to 180 feet and a diameter of 8 to 12 feet; but the seed from which it springs is so small that it takes 300,000 of them, or even more, to weigh a pound. Seed of the western cedar, so well known as the source of shingles, has about the same weight. The seed of the Douglas fir, the largest tree in Canadian forests, weighs about one forty-thousandth of a pound.

The white pine, once the standby of the eastern lumberman, and still the choicest wood in the eastern forest, commences as a little seed weighing about 26,000 to the pound, and many grow to a height of 100 to 150 feet and a diameter of 30 to 40 inches. The white spruce, the tree used in greatest quantity by eastern lumbermen and pulp manufacturers, starts life as a seed which takes 120,000 to make up a pound weight.

In order to give an idea of what this means, comparison may be made with some more familiar vegetable and weed seeds. The seed of the Sitka spruce or western cedar would weight about as much as two dandelion seeds, about the same as a single seed of the carrot, chickory, or black mustard, and less than a single seed of garden cress or onion.

Ship Paper Machinery From Manitowoc

MANITOWOC, Wis., June 20, 1927.—The Manitowoc Engineering Works has made an initial shipment of two cars which will be followed very shortly by other shipments, of two Paulson barking drums, eight rotary incinerators, and eight disc evaporators being installed by the Southern International Paper Company in its new mill now being erected at Camden, Ark.

Complete shipment also was made during the past week of one sulphite digester and two Howard pulp refiners to the Bagasse Products Corporation for installation in their new mill now being erected in Cuba.

The Manitowoc Engineering Works also have under construction three sulphite digesters for the West Virginia Pulp and Paper Company, one for the Rhinelander Pulp and Paper Company, one for the Nekoosa-Edwards Paper Company, as well as a large Paulson barking drum for the Kimberly-Clark Company.

This comprises only a list of some of the major pieces of equipment which are being built by the Manitowoc Engineering Works at the present time.

R. M. Kanik Again Heads Moloch Organization

APPLETON, Wis., June 11, 1927.—R. M. Kanik has again been made president of the Moloch Machine and Foundry Company, of Kaukauna, Wis., builders of paper mill equipment and automatic stokers. His election took place at the annual meeting just held.

Other officers are: J. M. Braun, of Appleton, Wis., vice president; J. J. Jansen, Kaukauna, treasurer; Hugo Weifenbach, Kaukauna, treasurer. Other members of the board of directors are: F. A. Townsley, C. E. Raught, L. F. Nelson, C. J. Jacobson and H. S. Coke, all of Kaukauna.

Reports of the company showed that progress has been quite satisfactory since a financial reorganization took place six months ago. A fire which occurred recently hampered production somewhat, but the future outlook is quite satisfactory.

Demand for Paper Improves in Philadelphia

Local Distributors Become More Optimistic After Experiencing Better Request for Various Grades—Chamber of Commerce Honors Century Old Firms, Including Several Pioneer Paper Manufacturers—Miscellaneous Trade Developments

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., June 20, 1927.—While the paper industry generally has been settling down to a normally quieter market Philadelphia distributors have been more hopeful of the coming summertime activities, as a result of slightly improved demand within the past week. As the paper market becomes alert to the present belated demand for many grades that have been inactive throughout the past few months there are expressions of optimism from the dealers.

Federal Reserve Report

In its May report on activities of the paper market, the Federal Reserve Bank for the Third or Philadelphia District states that following a high rate of activity in 1926, operations of paper plants in this district have been on the downward grade since the first of the year and in April wage payments in Pennsylvania were somewhat below the total for the same month of last year. This recent slackening is attributed chiefly to a seasonal falling off in the demand for various grades of papers, as shown by the smaller volume of current sales and unfilled orders. Stocks of finished products, which are moderate, the Federal report says, remain about the same as they were on the same date four weeks ago and last year. Wholesale paper prices, which are about 11 per cent under the levels of a year ago, the Federal Bank statement declares, continue unchanged from those of the previous month.

Fine Papers Slightly Improved

Though orders for fine papers have been confined to a hand to mouth type of purchase, dealers experienced a broader scope to the modern practice of supplying the consumer with his day to day needs of papers. Larger volume orders have been hard to secure in the past few months. Despite the slower pace of the fine paper market, several announcements have been made of the switching of production among the manufacturers of coarse grades and specialties to the lines heretofore confined to the fine paper mills.

Racquette River Paper Co. Announces New Lines

Among the larger paper mills which have made changes in production is the Racquette River Paper Company, of Potsdam, N. Y. For many years this concern has been prominently identified with the manufacture of high grade manila and fiber papers for envelope manufacture and other forms of conversion, and wrappings. Philadelphia distributors have just been notified that the company is now making the following grades of finer papers: Snowflake Manifold, 8¾ folio; 15 x 22, 500 sheets; 22 x 34, 500 sheets; 8½ x 11, 1,000 sheets. These are included in the announcement sent with prices attached. Another product is the Raripaco Drug Bond, in car load lots at a popular price and an additional ¼ cent per pound in sheets. The prices are well in line with the current markets and should entitle the Racquette River Company to a fair share of business. The Raripaco Drug Bond prices are below those that are manufactured in this state and so offset the long distance haul.

Commerce Department Reports Create Comment

Dealers who keep in touch with the paper markets of the world have been forecasting the possibilities of declining prices that may be made by American manufacturers to meet the recessions reported by the Government on foreign paper supplies. The Department of Commerce, Washington, D. C., calls attention to the declining pulp and paper prices in Norway, Sweden, Germany, Holland and Belgium. This may foreshadow the market trend in the United States in the coming year, a prominent local paper dealer asserts, although impressed with the belief that current prices are to hold throughout the remainder of the year.

Paper Trade Golfers in Tournament

Golfing enthusiasts of the Philadelphia Paper Trade Association will enjoy a two days tournament this week on Wednesday and Thursday, at the Manufacturers Country Club, Orland, Pa. Under the arrangements made by the committee, there will be scheduled for Wednesday morning qualifying rounds for the division of eights, the lowest qualifying eight being assigned to the championship division, while the remainder will be grouped accordin to their playing. The afternoon will be given over to match play in classes, the beaten four to continue to play for the consolation prize. Wednesday evening the golfers and their guests will join at the dinner table in the Club House.

On Thursday the Kickers Handicap will be played for the medal award to the low net scorer there will be prize awards to each eight and to the winners of the consolations. The golf tournament is under the arrangements made by the following members of the Paper Trade Association: Edwin A. Weihenmayer, Jessup and Moore Company; Irwin Megargett, Curtis & Bros.; Allen E. Whiting, Whiting Patterson Company; David Lindsay Jr., Lindsay Paper Company and Arthur B. Sherill, Riegel & Co.

Paramount Paper Products Inc. Organize

There has been opened for business this week a new industry allied with the paper trade of this city. The Paramount Paper Products, Inc., 226-228 Callowhill street, is the newest converting concern to be added to the Philadelphia trade and will confine its production for the time being to the manufacture of a line of duplex coffee bags in plain and printed designs in several colors. The firm has installed a complete printing and bag manufacturing equipment. The structure is a single story building, with 10,000 square feet of space. While the initial production will be strictly coffee bags, the new company is planning to eventually develop its lines and broaden into other grades of bag manufacture and specialties of an allied type. The line will be known as the Paramount, and will be produced under the direction of Max Weisman, superintendent of the plant.

Richie-Howarth Co. Extends Lines

As an exclusively American Writing Paper Company distributor handling the Eagle A Writing Papers and allied grades, the Richie Howarth Company, 804-808 Sansom street, has been rapidly extending its patronage for these specialties. The increased business has encouraged the company to extend its stocking of the papers of this manufacturer in the Philadelphia warehouse and there just has been arranged plans for additional facilities to provide for immediate shipments from the local quarters of the American Embossed Covers which in future will be carried in stocks instead of shipping direct from the mills in Holyoke. Heretofore the Richie Howarth Company has not been stocking the American Cover. These will now be carried in a complete assortment of colors.

Lindsay Paper Co. Adds to its Mill Brands

New lines of papers from several mill brands have been added to the stocks carried by the Lindsay Paper Company, now quartered in its original home in the Lindsay Building at 804 Sansom street. Among the recently acquired mill brands are the coated one side bond papers known as the Duplicator Bonds used for gellatine duplicating purposes. The Lindsay Paper Company have secured the Philadelphia territory representation for these brands. Others that have been secured are the colored book papers known as the Polychrome, made by the Appleton Coated Paper Company,

Appleton, Wis., and the Finance bonds of the B. D. Rising Paper Company. The Polychrome book papers are semi-dull finish and in a variety of colors. All the new lines are to be distributed in the Philadelphia territory through the Lindsay Paper Company.

Century Old Firms Honored

Outstanding among the century old firms that were honored in the annual dinner given by the Philadelphia Chamber of Commerce last week, were the Dill and Collins Company, Shrock Brothers, McDowell Paper Mills and the owners of the Bicking Paper Company, J. Gibson McIlvain Company. The Dill and Collins Company dates back to the first paper mill in America as the founders of the Rittenhouse Mill on the Wissahickon, while Shrock Brothers, board manufacturers of Downingtown, Pa., has a history dating from 1790 and the McIlvain Lumber Company from 1798. The McDowell Mills were founded in 1825 by the grandfather of the present proprietor, Charles McDowell. He was Joseph McDowell, a pioneer paper distributor of the Quaker City with a printing department on Market street then centered east of Broad street, where the business section was located. Dill and Collins succeeded to the business of David Rittenhouse, the first paper mill owner in America. The Shrock Brothers were successors to the first straw board mill operators in Pennsylvania, founded at Chambersburg, Pa.

Safepack Introduce New Paper

Mr. Lichtenstein, the local representative of Safepack Mills, makers of waterproof specialties, is introducing 7 ply, a new line of re-enforced wrapping, building and sheathing paper. It consists of three sheets of strong, tough Kraft paper, two layers of asphaltum, and two layers of re-enforcing cords. This makes an ideal combination for an indestructible building paper. As a waterproof and weatherproof wrapping and packing material, it is better and cheaper than burlap for bales, rolls, packages and bundles. Safepack Mills have moved their warehouse to 231 Dock street, where they carry a full line of the Safepack products.

Scott Paper Co. Elects Officers

In a special meeting called for election of officers, the board of directors of the Scott Paper Company, held at its headquarters in Chester, Pa., a session which reorganized the official staff. The election resulted in the selection of Thomas B. McCabe, of Swarthmore, for president to succeed Owen Moon, who was elected shortly after the death of Arthur H. Scott last summer. Edward S. Wagner, secretary and treasurer of the company was also elected first vice president, while James G. Lamb was chosen second vice president. Until his election to the presidency, Mr. McCabe was vice president of the company, with which he has been associated for more than a decade.

Leon Beck Visits S. D. Warren Mills

Accompanied by a group of local printers, President Leon Beck, of the Charles Beck Paper Company, 609 Chestnut street, and his associate in the business, Andrew Simon, journeyed to the mills of the S. D. Warren Paper Company, at Poland, Me. The group of printers were selected from the most prominent of the local firms and spent the week end as the guests of the manufacturers. Other members of the printing firms in this city will be included in similar tours to be made to the mills throughout the coming summer months.

J. L. N. Smythe Co. in Outing

As guests of the firm, the 27 employees of the J. L. N. Smythe Company, spent the afternoon of June 11 in the enjoyment of an outdoor program of diversified entertainment at Chestnut Hill. Accompanied by President J. L. N. Smythe, of the company, Vice President T. H. B. Smythe, and Secretary and Treasurer Harvey E. Platt, the party autoed to the grounds from headquarters 30 S. 6th street, and then joined in the novelties of a list of mirthful races such as peanut, bag, broom polo, and a ball game between the members of the sales organization and the shipping department. In the evening a refreshing picnic dinner was served.

Wisconsin Waste Disposal Committee Meets

NEENAH, Wis., June 13, 1927.—The Advisory Committee on Waste Disposal of the Wisconsin Pulp and Paper Industry, met with C. M. Baker and L. F. Warrick of the State Board of Health, and J. D. Rue of the Forest Products Laboratory, as a visitor.

It was reported that the Kannenberg Bill had been adopted by the State Senate and given an appropriation of $15,000 annually. This bill appoints a new commission to have charge of all questions regarding stream pollution in Wisconsin.

The State Board of Health exhibited its tabulation of tests made on the rivers of Wisconsin during the summer of 1926. Attention was directed to the effect of industrial wastes, of dams, temperature and aeration, on the biological and chemical analysis of water down the different streams to their mouths. A report containing this information will be published at a later date and will form an important contribution to the literature on the Wisconsin rivers.

Experiments carried out the past year by Wisconsin paper mills, on impounding and aerating waste sulphite liquor, were also reviewed and, although results varied, they indicated at least a 50 per cent reduction in the oxygen demand by properly aerating the waste sulphite liquor before discharging it into a stream.

The committee representing the mills agreed to continue the river tests and take on additional research work in cooperation with the state during the current year.

The enormous amount of work done in Wisconsin on recovery of white water waste was reviewed and, at the request of the State, the committee will attempt to fix figures which may be considered as efficient operating standards for various types of white water recovery.

It was decided to ask the mills of the Chippewa Valley to vote on a member for the committee to represent their section of the state in the future, the original member from that section of the state being now employed elsewhere.

The personnel of the committee as at present constituted is: H. A. Rothchild, *Chairman*, Kimberly-Clark, Company, Neenah, Wis.; E. P. Gleason, Nekoosa-Edwards Paper Company, Port Edwards, Wis.; W. F. Thiele, Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis.; S. B. Bugge, Tomahawk Kraft Paper Company, Tomakawk, Wis.; John Stevens, Jr., Fox River Paper Company, Appleton, Wis.; Otto Kress, Thilmany Pulp and Paper Company, Kaukauna, Wis.

Grays Harbor Pulp Co. Buys Timber Tract

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., June 10, 1927.—The Grays Harbor Pulp Company of Hoquiam has bought from P. R. Hogan of Aberdeen 100,000,000 feet of hemlock and spruce timber in the Campbell's slough section of the lower Humptulips valley, according to announcement made June 6 by Mr. Hogan. The purchasing company is a Zellerbach subsidiary which is soon to begin the construction of a pulp mill in Hoquiam. Consideration in the deal was not made public but it is known to be the largest financial transaction of this nature completed in years. It is understood that this timber will not be used for immediate production but will be held as a reserve to care for future needs.

Northern Mills Safety Record Surpassed

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 11, 1927.—The safety record which the Northern Paper Mills, Green Bay, Wis., achieved for the first time a week ago has been surpassed. At that time the entire force of 500 employees had completed one month without a lost-time accident. The period of perfect safety has now become 37 days, and the entire force is bending its efforts to do even better than that. The best departmental record is held by the converting and paper groups, which operated for 115 days without accident.

Fox River Valley Annual Safety Conference

Numerous Paper Mill Executives and Employes Attend Successful Gathering at Sheboygan, Wis.—W. J. Peacock of Northern Paper Mills, Green Bay, Occupies Chair and Leads Discussions—Many Interesting Papers Read By Prominent Figures in the Industry

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 17, 1927.—Ideas that answer the question, "How Do They Do It?" were exchanged very freely among the paper mill executives and employees who attended the vast annual Fox River Valley Safety Conference at Sheboygan, Wis., on Tuesday of this week. Out of the throng of more than 1,000 industrial men present, the paper industry had a liberal share, due to the fact that these mills have been the leaders in safety promotion.

Problems peculiar to the paper industry were given concentrated thought during the morning session, due to the fact that sectional conferences were arranged at that time. W. J. Peacock, personnel manager of the Northern Paper Mills, Green Bay, Wis., acted as chairman and led the interesting discussions which followed the talks.

Otto H. Rachals, foreman of the woodyard at the Northern Paper Mills, was the first to take the floor. He was invited to speak because he conducts one of the danger centers of the mill and has operated it for four or five months at a stretch without an accident, and has done this time and again. He credits his former connection with the railroad as the reason why safety is inbred in him.

Mr. Rachals says the workmen must be taught to set their minds on the safety idea—to think it and live it. It is the man whose thoughts are on something else and forgetful for the moment of danger that usually is responsible for an accident. Just as cleanliness is next to Godliness, he said, so it is next to safety. Employees should be taught to keep their department clean, to pick up debris, wires and other loose objects. Such practices make for safety. Commenting on safety contests, he said the victory for making a high score should not be the pride of achievement. The worker rather should be imbued with the thought that he has actually saved some lives, and prevented disability, pain and hardship.

Safety in the Wood Room

Speaking on "The Wood Room Crew Asks No Odds," C. K. Boyer, manager of the Interlake Pulp and Paper Company, Appleton, said the wood room is considered by him to be one of the most dangerous of departments. His employment in earlier days in this part of the mill gave him the facts on which he based his talk. The wood room is full of heavy machinery, and for that reason offers frequent opportunities for accident.

In most mills the wood room seems to have been located in any vacant space the engineers might have discovered, with the result that there is often lack of room and lack of consideration for the welfare of this unit. More attention should be given to the wood room because of what added safety means, he said.

Mr. Boyer also suggested the use of silver gray or white paint on machinery guards, instead of the usual black or green, so that they will more readily be seen and proclaim the fact that they represent danger. When he said he was convinced that the Volstead law had prevented accidents and increased efficiency, he provoked a lively discussion. He said that men who still persist in their weekend drunks are watched at their work and are either warned or discharged before they endanger their fellow workmen by their inefficiency.

Foremen must be first class housekeepers if employed in the wood yard, declared R. M. Radsch, superintendent of the Thilman Pulp and Paper Company, Kaukauna, Wis., in the third address of the session on "Safe Practices in the Pulp Mill." Order and cleanliness in the yard mean fewer chances for accident. In the woodroom mechanical guarding is the main essential, and in the digester building, care in handling high pressure steam. Attention to chemical burns should be an important phase of safety in the sulphate mill. These should be attended to immediately and a report made to the foreman.

Mr. Radsch said also that healthy safety conditions depend on regular and rigid safety inspections. The more of a "pest" the inspector is, the better. Such a man should be a regular "bloodhound" in his effort to seek out dangers. At the Kaukauna plant this official is the most hated man among the employees, yet is considered one of the most valuable because of what he does for accident prevention.

Attention of the paper mill men was called by R. A. Larsen, safety director of the Patten Paper Company, Ltd., Appleton, in his talk to the fact that the rear end of the paper machine is often the source of many accidents. Uusually there is not much room at this point in which the back tenders can work, and extra caution is needed there. His mill eliminates the accidents caused by unused machine guards by making the head machine tender responsible. Whenever a guard is taken off temporarily, this man must see that it is put back. He is instructed not to replace it himself, but to delegate an employee to do it for the safety impression this made.

A discussion at this point as to whether men in the mill should go barefoot while at work brought a consensus of opinion that the practice should be forbidden. There are too many falling objects, and danger of spilled acid. Some mill men said they required men to equip themselves with waterproof shoes before employment would be given.

Kimberly-Clark Safety Methods Described

Some interesting details as to the methods used by the Kimberly-Clark Company were given in the address of M. G. Hoyman, Neenah, Wis., superintendent of service for that firm. His subject was, 'Placing the Responsibility for Accidents."

In first safety efforts, he said, the name of the foreman always was published in the bulletin so that he would use greater insistence among his men to practice caution. It was found, however, that the blame cannot always be placed on the foreman alone, and that responsibility must be placed on everybody.

This situation inspired the inter-mill and inter-department contests that have had such good results and have brought national honors to Kimberly-Clark. One plant with 283 men ran for eleven months with only one accident, Mr. Hoyman said, while these contests were in force. Cash prizes given to all members of departments having perfect records mean a big expense, he explained, but the savings through safety more than make up for this.

Every new worker now receives a booklet containing safety advice and rules, said the Kimberly-Clark official. He must sign a slip showing that he received a copy, and is told he must read it from cover to cover before he can start work. When an accident occurs, he is asked whether he knew of the rule that applies in such a case. If not, he is reprimanded for not having read the book. Books are not printed in foreign tongues, Mr. Hoyman said in answer to a question, because the policy is to Americanize the men as quickly as possible.

Every accident is investigated by the Mill Safety Council. Its cause is determined, the responsibility placed if possible, the

recommendations are made as to what can be done to avoid another. If it is the fault of an employee, he is recommended for a reprimand, a layoff of one week or of two weeks without pay, or dismissal entirely.

Afternoon and evening sessions of the conference were general and closed with an address by Judge A. C. Backus, publisher of The Milwaukee Sentinel. The contention in his address was that education and proper habits of safety alone can reduce the toll of accidents adequately.

Nicolet Plant Developments

Practically all of the new machinery which is being installed in the newly organized Nicolet Paper Company's plant at De Pere, Wis., has arrived. Indications are now that operations in the former American Writing Paper Company mill will be started in August, according to H. C. Hanke, general manager.

Two machine will be operated at the start on glassine and grease-proof papers. This equipment is now being set up by the engineers. There will be three supercalenders, all electrically driven. The plant also will have four heavy type rewinders, also electrically driven.

Water power wheels are being improved and generators are being installed so that the mill can produce its own current. Each machine will have its own motor. Sufficient expenditures are being made so that the plant will be entirely modern and up-to-date.

Other major improvements consist of the installation of three new water wheels to drive a large new turbine, overhauling of the boilers and engines, and the building of concrete floors in the beater and machine rooms. Seven carloads of machinery have been shipped to the mill to date.

Welfare work among employees is to have an important place in the activities, Mr. Hanke believes. He has had a strong department of this kind in previous mills, and is planning to make use of such possibilities. The company may establish social quarters for the employees and their families, and later on may engage a registered nurse. These plans are somewhat indefinite for the present, however.

News of the Paper Industry

All employees of the Kotex department of the Kotex Company, subsidiary of the Kimberly-Clark Company, Neenah, Wis., received cash bonuses this week in connection with the safety work of that institution. The plant has operated for a period of one year without an accident, and has achieved that record for the third time.

Merlin Conley, of the engineering staff of the Northern Paper Mills, Green Bay, Wis., last week demonstrated the value of first aid training received largely through efforts of his company. While working at the company's new power project near Menominee, Mich., he rescued a drowning boy from the river, and by using restorative methods learned in a Red Cross course, revived the youth's consciousness and relieved his condition. Twenty-five employees of the Northern are taking the first aid course by mail.

L. M. Alexander, principal owner of the Nekoosa-Edwards Paper Company's mills at Port Edwards and Nekoosa, Wis., has again been honored by Lawrence College, of Appleton, Wis. He was re-elected president of the board of trustees at the annual meeting several days ago. Mr. Alexander has been identified with the college administration prominently for many years.

A real community service has been rendered by the Nekoosa-Edwards Paper Company, Port Edwards, Wis., since the power dam was built recently which caused the formation of Nepco lake. The company planted rainbow trout in the lake immediately, and 250,000 of these fish are thriving there. Most of these fish will be transplanted to nearby streams for the benefit of nimrods. The company probably will arrange to plant fry this summer of bluegills, crappies and sunfish. These accomplishments were pronounced as highly satisfactory during an inspection made this week by Elmer S. Hall, state conservation commissioner, and B. O. Webster, state director of fisheries.

A new sidetrack is being built by the Menasha Paper Mills, Menasha, Wis. As a result the company will be provided with a means of shipping straw to the mill by the carload and using extensive storage facilities.

Herman Rathman, an employee of the Peshtigo Paper Company, Peshtigo, Wis., had his foot crushed in an accident last Sunday. A detached flywheel toppled over before he could escape, pinning his leg beneath.

Fort Miller Paper Co. Burned

[FROM OUR REGULAR CORRESPONDENT]

FORT MILLER, N. Y., June 20, 1927.—The paper mill of the Fort Miller Pulp and Paper Company, one of the oldest paper making concerns in the Hudson Valley, was practically destroyed by fire Saturday, together with all equipment, the estimated loss being placed at more than $100,000. The pulp mill of the company was saved after a hard fight. The fire, which originated in one of the paper making machines, was one of the most disastrous occurring in the Hudson Valley pulp and paper industry since the destruction, nearly two years ago, of the Standard Wall Paper plant at Schuylerville, which was valued at approximately $1,000,000.

The blaze was discovered about 3 a.m. by Roy Petit, a second hand on the night shift, and at that time had gained considerable headway in the machine room having originated, it is believed, in a hot box on one of the large paper machines. The blaze spread rapidly through the plant and despite efforts of the company fire-fighting apparatus it became apparent early that the paper mill was doomed. Thereafter the greatest efforts were directed towards saving the pulp mill.

The automatic sprinkler system in this plant was released and the company fire brigade with the aid of the Schuylerville and Fort Edwards fire departments, which had been summoned, succeeded in saving the pulp mill after a hard fight. The fire was under control three hours after it was discovered.

This is the second disastrous fire suffered by the Fort Miller Pulp and Paper Company in the past five years, the pulp mill having been totally destroyed in May, 1922. The present pulp mill of larger capacity later replaced the burned mill.

Anna M. Thorpe, president, treasurer and general manager of the plant, estimated that the loss would be in excess of $100,000 and is virtually covered by insurance. She stated that the paper mill probably will be rebuilt as soon as possible.

The Fort Miller Pulp and Paper Company was founded eighty years ago by H. J. Craige, who operated it for many years, Mr. Craige being one of the pioneer pulp and paper manufacturers of Northern New York. The company later came into the control of John Thorpe, who directed the business for twenty-five years until his death about ten years ago. Thereafter the management was taken over by his daughter, Miss Anna M. Thorpe, present owner and manager, who, incidentally, is one of the few women paper mill executives in the industry.

The Fort Miller Company manufactures mostly wall paper and the normal working force is about one hundred hands.

Cost and Technical Meet at Kalamazoo

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., June 22, 1927.—The Cost and Technical Association of the Paper Industry, Kalamazoo Local Division, met Wednesday, June 22, at the Otwellegan Country Club, midway between Otsego and Allegan. Charles Barton and C. B. Neil discussed drying problems and costs while Carl Schneider, of the Hawthorne Paper Company, spoke on color control in the beater.

This program followed the dinner, served at 7:00. Golf constituted the afternoon program.

Paper Business Continues Spotty in Toronto

All Grades Affected by Continued Cold Weather and Volume Falls Below Expectations, According to Reports From Distributors—Thousand Sheet Count Plan Working Out Satisfactorily—Mechanical Wood Pulp Market Develops Easier Tendency

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., June 20, 1927.—Business in the paper line continued fair although it is generally admitted by the jobbing trade that volume has not come up to expectations so far this month. The continued cold weather has had a rather depressing effect on all lines of business, although paper mills continue to operate to practically full capacity. Toilet and tissue mills are well employed and have orders ahead for a considerable period. Cover papers are in good demand and wrapping paper turnover is fair. Coated paper plants are doing a satisfactory business and book and writing mills are well employed in turning out consignments for catalogue work. The printing end is not rushed by any means but some establishments are quite busy.

The new 1,000 sheet count basis, which is now in effect in the trade, is working out as well as can be expected and jobbers report there are very few complaints. One feature of the plan, which wholesalers appreciate, is the simplicity and easy in making out invoices and, in this respect, the system is a decided improvement over the old ream basis. New stock and net price lists have been issued by the jobbers and all weights shown therein are for 1,000 sheets.

The pulp market is rather slow and mills are buying only as required but stocks at producing points and with paper mills are not heavy. Ground wood pulp is selling at from $28 ot $30 at mill; sulphite bleached, at $80, and easy bleaching at $60.

Erecting Addition to Plant

The contract has been let by the Provincial Paper Mills, Ltd., Toronto, for an extension to the finishing room of the Thorold Division of the company's mills, to W. J. Trimble, pulp and paper mill contractor, Toronto. The addition will be two story and basement, 65 x 72 feet, and will be built of brick and reinforced concrete. Construction is now under way.

Great Lakes Paper Mill

Mayor Crawford and Alderman Murphy, of the city council of Fort Williams, were in Minneapolis last week, where they had a conference with E. W. Backus in connection with the proposed news print mill of the Great Lakes Paper Company, which will be built in Fort William. The company wishes to increase the capacity from 100 to 500 tons and this will involve some changes in the arrangement entered into with the city of Fort William.

Construction of Nipigon Paper Mill

D. M. Hogarth, who is the member for Port Arthur in the Ontario Legislature, states that construction of the new news print mill of the Nipigon Corporation will start next year. The building of the plant in Port Arthur is assured and the company has made application for approval of the site and agreed as to the terms of its power contract with the Ontario Hydro-Electric Power Commission. Under the terms of the contract, the Commission will not have Camp Alexander power for sale much before 1930 when the Nipigon Corporation must be ready to take it. It will take about a year and a half to construct the mill and this will afford plenty of time for the Nipigon Corporation to conform with the program of the Hydro-Electric Commission.

Superior Paper Mills Ready

The Superior Paper Mills, Ltd., which is the latest industry in Thorold, Ont., will be in operation the first week in July and is the newest paper specialty plant in Canada. The mill of the Peerless Pulp and Paper Company, which had long been idle, was acquired some months ago and considerably extended. Two machines of the cylinder and Fourdrinier types are installed, along with modern equipment, and the output of the plant will be about 4,000 tons annually. Tissues and light weight specialty papers, both white and colored, will be produced and several new lines introduced which have never been turned out in Canada before. J. M. Cathcart, of St. Catharines, is the president and general manager of the company; J. T. Berhalter, formerly of Toronto, is vice president and manager of sales, and R. E. Liptrott is secretary-treasurer of the organization. The principals have had long experience in the paper line and the town of Thorold has granted the new industry a fixed assessment of $10,000 for a period of ten years.

New Holiday Arrangements

Some paper houses are adopting a new system in connection with the solution of the holiday problem. Instead of allowing certain members of their staffs to go at different periods, they are practically closing down for two weeks and allowing nearly everyone to enjoy a vacation all at the one time. Among the concerns following this practice is the Ratcliff Paper Company, Toronto, who adopted such a plan last year and found that it worked out more satisfactorily than having the holiday season spread out over two or three months.

Veteran Paper Man Honored

John T. Hornibrook, secretary-treasurer of Brown Bros., manufacturing stationers and paper dealers, Toronto, recently celebrated his 78th birthday. He has been associated with the firm of Brown Bros. for 60 years, which is a remarkably long record. Mr. Hornibrook is a Past Grand Master of the Independent Order of Odd Fellows of Ontario, and Past Grand Patriarch of the Grand Encampment. He attended the recent session of the latter body in Toronto and was presented with a bouquet of 78 roses, accorded grand honors and made the recipient of appreciative references.

Notes and Jottings of the Industry

H. B. Donovan, sales manager of the Canadian Paper Company, Toronto, spent the past week in Montreal on business.

D. F. Robertson, general manager of the Canadian Paperboard Company, Montreal, was in Toronto recently on business. It is rumored that the new chip board mill which the company will erect in the near future will be located in Toronto.

J. G. Gibson, secretary of the Spanish River Pulp and Paper Mills, Toronto, and family, have removed to Toronto Island, where they will spend the summer months.

C. I. Hill, representing the Warren Manufacturing Company, New York, was a caller on the trade in Toronto during the past few days.

I. H. Weldon, president of the Provincial Paper Mills, Toronto, and Mrs. Weldon, who have been spending the past month on a motor tour in England, have returned home.

James Thompson, president of the Thompson and Heyland Lumber Co., Toronto, who are large exporters and handlers of pulp wood, accompanied by his wife and family left last week on a motor trip to Winnipeg, from which point they will go to Vancouver and other Coast cities.

E. C. Wainwright, of the sales staff of the Port Arthur division of the Provincial Paper Mills, was in Birmingham, Alabama, last week on a business trip.

George W. Pauline, president of Ritchie and Ramsay, coated

paper manufacturers, Toronto, and his son, George C. Pauline, leave on June 28 on an extended pleasure trip to England.

Completing an inspection tour of the new news print mill of the Canadian International Paper Company, at Gatineau, Que., over a hundred publishers from all parts of the United States from Missouri to New York state were in Toronto recently for a few hours on the last leg of their journey home.

T. A. Weldon, vice president of the Provincial Paper Mills, Toronto, accompanied by his wife and daughter, are spending a holiday at Battle Creek, Mich.

Strathmore Executive Council Meets

SPRINGFIELD, Mass., June 21, 1927.—From the four quarters of the continent were recorded paper merchants attending the Annual Executive Council meeting of the Strathmore Paper Company, held Monday and Tuesday last, June 13 and 14 at Woronoco, Mass. The two days' sessions were given to business discussions, especially relating to the sales policies for Strathmore products for the ensuing year as well as the outlining of an extensive advertising campaign.

The sessions opened with the address of welcome by H. A. Moses, president and treasurer of the Strathmore Paper Company, which was followed by a talk on "Troubles," by Col. B. A. Franklin, vice president. Others who spoke during the two days sessions were, Roy Mumma, of Alling & Cory, "What's New in Service Department Work"; Walter Deardon of the Rourke-Eno Paper Company, "Does It Pay to Follow Up Mill Advertising"; Courtney Reeves of the Paper Mills Company, "Sales Meetings"; H. Londergan of Henry Lindenmeyer & Sons, "How We Get the Printers' Salesmen to Sell Paper"; Leonidas Beck of Charles Beck Company on "Do Printers Want Too Much Service"; C. C. Parlin of the Curtis Publishing Company on "What Does the Future Hold for American Business". The climax of the meetings was an illustrated talk given by Cy Norton, advertising manager of the Strathmore Paper Company, his topic being "Strathmore Does Local Advertising for You—But Do You Cash In?"

At the close of the meetings all partook of one of those celebrated New England clambakes, the equal of which have never been duplicated outside of the New England shores.

Attending the meeting were H. E. Thomlinson and Mr. Booth of Hull, England, Mr. Thomlinson representing the G. F. Smith Company, of England, agent for "Strathmore" products. Among those present were: H. M. Alling, Arnold Roberts Company; F. P. Appleton, Miller & Wright Paper Company; B. W. Barton, Barton, Duer & Koch; Leon Beck, Chas. Beck Company; E. D. Bement, Chas. A. Esty Paper Company; C. H. Billip, Federal Advertising Agency; Graham Blandy, Chas. A. Esty Paper Company; H. S. Brown, Carter, Rice & Company; G. S. Buzzard, Miller & Wright Paper Company; Chas. Charnella, Paper House of New England; M. K. Christine, Raymond & McNutt Company; G. S. Clerk, Hudson Valley Paper Company; E. E. Cole, Henry Lindenmeyr & Sons; N. A. Considine, Paper House of Pennsylvania; E. A. Crowell, Carter, Rice & Company; E. L. Cummings, Storrs & Bement Company; C. W. Dearden, Rourke-Eno Paper Company; A. A. Duer, Barton, Duer & Koch Company; C. S. Elliott, Mack-Elliott Paper Company; C. A. Esty, Chas. A. Esty Paper Company; S. G. Garner, J. E. Linde Paper Company; Ryder H. Gay, Arnold-Roberts Company; H. B. Goff, Alling & Cory ompany; Fred Goode, Curtis Publishing Company; Claude Hartwell, Chas. A. Esty Paper Company; C. R. Heeter, Union Paper & Twine Company; C. C. Hoffman, Donaldson Paper Company; J. H. Hooke, Brown Bros., Ltd.; A. M. Hopkins, Arnold-Roberts Company; Forest Hopkins, Paper Mills Company; L. F. Hilty, L. S. Bosworth; B. A. Judd, Petrequin Paper Company; H. W. Keil, Millcraft Paper Company; Alfred Kinn, J. E. Linde Paper Company; Chas. Koch, Barton, Duer & Koch Company; D. S. Landau, Alling & Cory Company; Royden Loring, Arnold-Roberts Company; J. H. Londergan, Henry Lindenmeyr & Sons; Lee D. Mahon, B. F. Bond Paper Company; G. A. Manz, J. & F. B. Garrett; E. P. Meade, *Printers Ink*; R. E. Milligan, Seaman-Patrick Paper Company, Roy Mumma, Alling & Cory Company; J. S. McCain, Jr., *Printing and U. S. Paper Maker*; W. L. McCain, *Printing and U. S. Paper Maker*; E. A. McGrath, Zellerbach Paper Company; W. J. McLellan, Carter, Rice & Company; Bryant McQuillen, Storrs & Bement Company; E. A. Petrequin, Petrequin Paper Company; C. C. Parlin, Curtis Publishing Company; R. F. Paviour, Alling & Cory Company; E. W. Porter, Cook-Vivian Company; W. F. Obear, Seaman Paper Company; L. A. Raymond, Raymond & McNutt Company; B E. Reeves, Alling & Cory Compony; C. H. Reeves, Paper Mills Company; J. W. Reilly, Acme Paper Company; W. H. Rourke, Rourke-Eno Paper Company; M. Schlosser, M. & F. Schlosser; R. Schmidt, Miller & Wright Paper Company; A. H. Seyler, Cleveland Paper Company; Andrew Simon, Chas. Beck Company; H. R. Stanford, Stanford Paper Company; W. N. Stetson, Storrs & Bement Company; A. J. Stevens, Storrs & Bement Company; W. B. Stevenson, Storrs & Bement Company; W. H. Stuart, Henry Lindenmeyr & Sons; P. A. Stuhlreyer, Diem & Wing Paper Company; R. Tinsman, Federal Advertising Agency; H. E. Thomlinson, G. F. Smith; J. W. Vivian, Cook Vivian Company; C. C. Walden, Jr., *Printing and U. S. Paper Maker*; G. L. Webb, Storrs & Bement Company; A. C. Wetmeyr, J. E. Linde Paper Company; R. C. Williams, Central Ohio Paper Company; B. W. Wilson, B. W. Wilson Paper Company; F. W. Wilson, Blake, Moffit & Towne; C. A. Young, Carter, Rice & Company; J. W. Zimmerman, Standard Paper Company.

Important Customs Decisions on Paper

The United States Customs Court has decided two cases as to certain foreign papers, as follows:

Paper in rolls imported at New York held by Customs Court to be subject to 10 per cent extra duty because not marked with country of origin, which is possible without injury to the paper.

Austrian wrapping paper held not to have been undervalued; the Government took the position that because the market was rising a higher dutiable value had become effective prior to the date when the paper left the country, by reason of a delivery at the mill against a more recent order at a higher value.

The importer abandoned a case initiated at New York in which he claimed test container board to be dutiable as pulp board, at half the duty held by the appraiser.

Foreign carbonizing tissue has been offered at remarkably low prices in the American market, but companies which purchased the foreign paper are reported to have found the paper unsuitable for carbonizing.

The taking of testimony has been concluded in an important case in which papers held by the Customs officials to be box liner and poster paper were claimed by the importers to be standard news print, and therefore duty free, instead of dutiable as held by the appraiser. The Import Committee of the American Paper Industry assisted the Government in this case by providing expert witnesses who identified the paper as being the grades usually sold in the United States as being far different from paper used by newspapers.

Directors Inspect American Writing Mills

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., June 7, 1927.—Directors from Boston and New York attended the meeting of the Board of Directors of the American Writing Paper Company last week. Provision has been made in the by-laws to have at least two meetings a year held in the Holyoke office. The directors were given an opportunity to inspect the mills and see for themselves the improvement in the physical properties.

Obituary

Harry Hall

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., June 20, 1927.—In the passing of Harry Hall, the Philadelphia paper trade lost one of its oldest associates, long identified with paper distribution and manufacturing in this city and State. Mr. Hall died at his home 101 Old York Road last week. He was 77 years of age and had retired from the industry fifteen years ago. He was formerly head of C. S. Garrett & Son, 18 South Marshall street, dealers in building papers and roofing paper supplies. At the time that he was president of the Garrett company, he was also engaged in the manufacture of papers as the owner of the Marley, Beaver Dam and Keystone Mills in this section of the State. R. C. Batchelor, present president and his former associate in the Garrett company, attended the funeral held from his late residence.

Thomas G. Means

Thomas G. Means, the well known paper salesman, passed away suddenly on June 8, following an operation for appendicitis. Funeral services and interment took place at Nashville, Tennessee.

Mr. Means had been in the employ of the Perkins-Goodwin Company, pulp and paper merchants, of 551 Fifth avenue, New York, for about two years, in the sales department, and previously had been connected with the Seaman Paper Company.

He is survived by his widow, and also leaves a host of friends behind. His loss is keenly felt by all who had the pleasure of knowing him.

James H. McNairn

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., June 20, 1927.—James H. McNairn, 90 years of age, died recently at his home, 4 Howard street, Toronto. He was a veteran of the Fenian Raid and one of the oldest members of the Law Society. He spent several years in railway work and in life insurance activities and in 1882 founded the business of wax paper manufacturing with which he was identified until his retirement a few years ago. He was one of the pioneers in this industry in Canada. Mr. McNairn is survived by his widow and one son, Dr. W. H. McNairn, of McMaster University.

T. McKean Meiere

BALTMIORE, Md., June 18, 1927.—T. McKean Meiere, member of the firm of Reese and Reese, of this city, died Thursday, June 16, 1927, after a brief illness. Mr. Meiere had long been identified with the paper industry, and he was considered an expert in paper values. His personality and character endeared him to all those who knew him, and his death is a distinct loss to the community.

William A. Stuart

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, June 20, 1927.—Word was received here the past week of the death of William A. Stuart, formerly of Cincinnati, at the home of his brother, Charles M. Stuart, 293 Washington avenue, Albany, N. Y. He was a victim of heart disease and his death came suddenly after a long illness, however, during which he had received treatment.

Mr. Stuart was widely known in the Miami Valley where he centered his greatest activities, having been engaged in the paper business with headquarters in Cincinnati for many years, and up to the time he was taken ill.

Mr. Stuart was familiarly and affectionately known to his friends as "Billy" Stuart. He was a close friend and associate in the "old days" of the late Colonel Harry Mead, of the Mead Paper Company, and several other widely known Daytonians, most of whom have passed on. He was a large jobber in print paper and his customers remained always his friends. He was an amiable man and usually "the life of the party." He was a bachelor and when residing in Cincinnati occupied apartments with other bachelors in Walnut Hills.

Besides his two brothers, Charles and Commodore D. D. V. Stuart, retired, of the United States Navy, he is survived by two sisters, Mrs. William F. Lowell, Washington, D. C., and Mother Stuart, of Sacred Heart Academy, Philadelphia.

Chillicothe Paper Co. To Double Output

CHILLICOTHE, Ohio, June 20, 1927.—To meet the demands of increasing business, directors of the Chillicothe Paper Co., yesterday, authorized the purchase of a new paper machine, with necessary buildings and auxiliary equipment, which will increase the daily output from 30 to 70 tons.

For the past year or more the sale of the local company's high grade book and writing paper has been growing so fast that the directors deemed the extension a necessity.

The cost of the improvement is expected to total around $400,000, which will be financed through the sale of 2000 shares each of common and preferred stock at par value of $100.

The new paper machine will be 154 inches wide and have a daily output of forty tons. The present machine which has been operated since 1920 is 138 inches wide with a daily production of thirty tons.

The new equipment will be housed in a structure connecting the present plant on the south. By increasing the total plant investment fifty per cent—giving Chillicothe another million dollar industry—the company will more than double its output.

Contract for the equipment will be placed with Rice, Barton & Fales, Worcester, Mass., who are the builders of the present machine which has worked so satisfactorily.

It is expected that the new production unit will be in operation by the early part of 1928, officials of the paper company announce.

The new additions will practically double the amount of money which this industry brings into Chillicothe. This money is brought in entirely from the outside as none of the company's products is sold here.

To Discuss Binder Board Simplification

WASHINGTON, D. C., June 21, 1927.—Word has been received here of the following committee of th Binders Board Manufacturers Association to discuss the simplification program of binders board with the Employing Book Binders Association; Leigh Davey, A. B. Goodrich, and O. M. Porter, secretary of the association. When this conference will take place is not known here at this time. It will be recalled that the binders board manufacturers met in this city some months ago and adopted a simplification program which was not acceptable to the book binders. The latter have adopted a program of their own and it is expected that a compromise will be reached on the two programs which will effect the simplification of sizes.

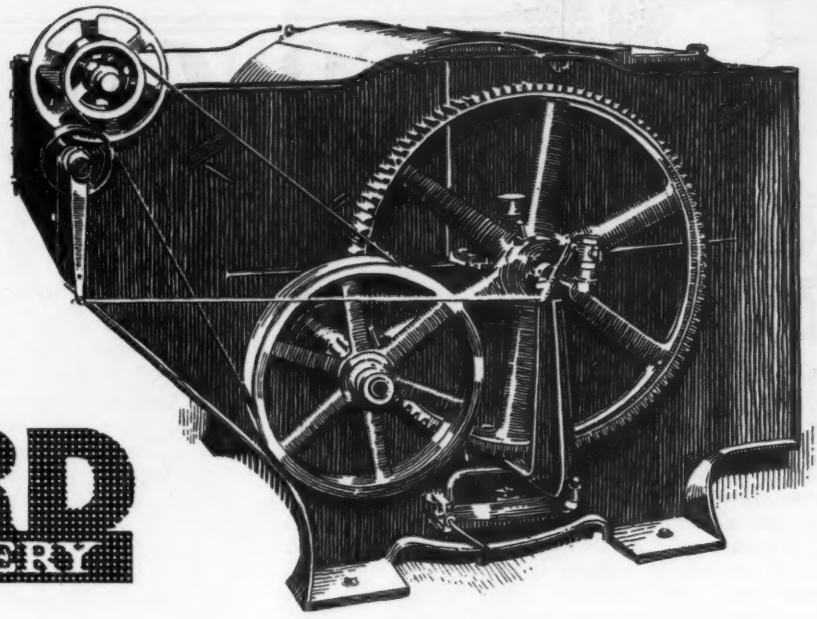
Moore & Thompson Establish Chicago Branch

CHICAGO, Ill., June 11, 1927.—The Moore and Thompson Paper Company has found it necessary, by reason of increased business in the middle west, to establish a local office under the supervision of Frank K. Moody. They are carrying stock and their offices are located at 217 East Illinois street, Chicago. The Moore and Thompson Paper Company are now one of the largest manufacturers of kraft gummed tape in the United States.

De Pere Truck Driver Killed

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 11, 1927.—George Wobosel, 17, a truck driver for the De Pere Paper Company, De Pere, Wis., was killed this week when his truck was struck by a train. His machine was caught squarely when he accidentally drove it on to the rail, after making a stop to let the train pass.



BIRD MACHINERY

What do you pay *for pulp recovered from white water?*

When you buy as many tons of pulp as an efficient save-all takes out of your waste in a year, you make sure you get it at the lowest market price.

Look at recovered fibre the same way.

What does it cost per pound?

The Bird Save-All is designed to recover a high percentage of the solids from the white water and to do it in such a way that the cost per pound of fibre recovered is as low as possible.

Isn't that what you want in a Save-All?

The BIRD SAVE-ALL

BIRD MACHINE COMPANY
South Walpole -:- Massachusetts

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Carthage, Ind.—Sefton, Inc., has been formed by officials of the Sefton Manufacturing Company, 59 East Madison street, Chicago, manufacturer of corrugated paper products, fiber board shipping containers, etc., with mills at Chicago, Anderson, Ind., and Brooklyn, N. Y. The new company will take over the present Sefton organization and the Dixon Paper Board Company, Carthage, and will consolidate the two interests. The Carthage mill has a rated capacity of 150 tons of paperboard, strawboard, etc., per day, and will be continued in service by the new owner, with output being used largely at the Anderson mills, devoted to the production of finished containers. It is understood that tentative plans are under consideration for increase in capacity at the last noted plant. The new company will also continue operations at the mills at Chicago and Brooklyn, as heretofore. A financing program is being arranged to be followed, it is said, by expansion and betterments.

Oregon City, Ore.—The Hawley Pulp and Paper Company has awarded a general contract to A. Guthrie & Co., Inc., Builders' Exchange Building, St. Paul, Minn., for the construction of proposed additions to its local pulp and paper mills, for which plans have been in progress for a number of months past. The expansion is estimated to cost close to $600,000, with equipment, and will be placed under way at an early date.

Somerville, Mass.—The Agar Manufacturing Corporation, 15 Winchester street, Medford, Mass., manufacturer of corrugated paper products, has filed plans for the erection of its proposed one-story mill, 150 x 300 feet, on local site, and will soon proceed with superstructure. It is estimated to cost about $160,000, with machinery. H. M. Ramsay, 184 Boyleston street, Boston, Mass., is architect.

Bastrop, La.—R. J. Cullen, president of the Southern International Paper Company, with local mill, is at the head of a project to construct and operate a new plant for the manufacture of kraft paper bags and similar containers. A site has been acquired in the city and work will soon begin on the initial unit, to be 100 x 500 feet, steel and concrete type, equipped to give employment to about 200 men. It is proposed to construct additional units at a later date. The present plant is reported to cost upward of $500,000, with machinery. It is understood that a new company will be formed to carry out the enterprise.

Dubuque, Iowa—The Maizwood Products Company, 209 South State street, Chicago, Ill., Hugh Brennan, president, recently organized to manufacture wallboard, etc., from waste materials, has asked bids on general contract for the erection of a proposed plant unit at Dubuque, estimated to cost close to $100,000, with equipment. E. H. Hussey is company engineer.

De Pere, Wis.—The De Pere Paper Manufacuring Company has withheld contract award for its proposed mill addition up to the present time, but is reported as planning to proceed with the work at an early date. The structure will be one-story and basement, 70 x 150 feet, and will be equipped as a beater department. Herman Miller is general manager.

Halltown, W. Va.—The Halltown Paper Board Company is said to have arranged the rebuilding of the portion of its storage and distributing department recently destroyed by fire, with loss reported at close to $15,000.

New York, N. Y.—The Paramount Bag Company, recently organized with a capital of $25,000, under state laws, is reported to be planning the operation of a local plant for the manufacture of paper bags and containers. The company is headed by Samuel Katz and Louis I. Casselman. It is represented by Morris A. Rabinovitch, 230 Grand street, New York.

Park Ridge, N. J.—Mittag & Volger, Inc., Park Ridge, has work under way on a proposed new addition to its plant on Park avenue, for the manufacture of carbon and other processed paper stock, for which a general contract recently was let. It will be two-story, reported to cost about $50,000, with equipment. It is proposed to have the building ready for equipment installation at an early date. Walter E. Truesdell, 29 Mountain avenue, Summit, N. J., is architect.

St. Paul, Minn.—The Calhoun Wall Paper and Paint Company, 62-66 West Tenth street, is said to be planning the early rebuilding of the portion of its warehouse, destroyed by fire, June 8, with loss estimated at close to $25,000, including stock and equipment.

Chicago, Ill.—The Celotex Company, 645 North Michigan avenue, Chicago, manufacturer of insulating board, wall board, etc., with main mills at Marrero, near New Orleans, La., has formed a new subsidiary to be known as Celotex Australia, Ltd., to construct and operate a new mill in Australia. Negotiations have been concluded for a site at Queensland, and plans for initial units will be placed under way at an early date. The mill will cost in excess of $500,000, with machinery. A raw material supply has been arranged. B. G. Dahlberg, president of the parent company, will head the new organization. W. M. Hughes, former Australian prime minister, will be prominent in the company, as will also E. G. Theodore, former Premier of Australia.

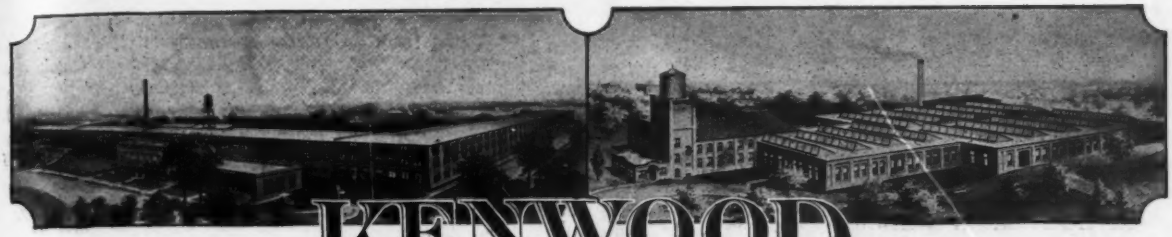
London, Ont.—The London Shipping Containers, Ltd., has completed plans for a new addition to its plant to cost about $60,000, with equipment, and expects to begin work at an early date. Bids have been asked on general contract for the structure. John Moore & Company, London, are architects.

Alymer, Que.—Nesbitt, Thompson & Co., Ltd., 145 St. James street, Montreal, Que., has engaged the Power Corporation of Canada, Ltd., 20 St. Nicholas street, Montreal, engineer, to prepare plans for its proposed pulp and paper mill in the vicinity of Alymer, for which a site has been selected. The plant will consist of several units and is reported to cost in excess of $3,500,000, with machinery. Work will likely be started early in the fall.

New Companies, Etc.

New York, N. Y.—The Kramer Paper Box Company, Inc., has been incorporated with a capital of $10,000, to manufacture and deal in paper boxes and containers. The incorporators are Charles and Abraham Kramer, 1072 52nd street, Brooklyn. Samuel L. Wallerstein, 120 Broadway, New York, represents the company.

Chicago, Ill.—The Thomas Paper Stock Company, 2143 South Loomis street, has been incorporated with a capital of $5,000, to deal in paper goods. The incorporators are M. S.



The Mill at Albany

KENWOOD

The Mill at Arnprior

the Recognized Mark

of Pure Wool Quality

WOOL PRODUCTS

REG. U.S. PAT. OFF.

The Value of a Trade Mark is measured by the Quality of the Product it distinguishes

This Kenwood Mark on a Papermaker's Felt or Jacket is assurance that it is the best for its purpose that can be produced anywhere in the world.

F. C. HUYCK & SONS

KENWOOD MILLS, ALBANY, NEW YORK

KENWOOD MILLS LTD., ARNPRIOR, ONTARIO, CANADA

Dolin and Louis M. Mantynband. The company is represented by Epstein & Feiwell, 11 South La Salle street, attorneys.

New York, N. Y.—The Waterman Stationery Company has been incorporated with a capital of $20,000, to manufacture and deal in writing papers, etc., and other stationery products. The company is represented by Benjamin Gassman, 63 Park Row.

Howland, Me.—The Southern Advance Bag and Paper Company has been incorporated under state laws, with registered office at Howland, to manufacture paper products, including bags, containers, cartons, etc. It is capitalized at $800,000. The company is a subsidiary of the Advance Bag and Paper Company, Middletown, Ohio, and has plans in progress for the construction of a new mill in the vicinity of Hodge, La., reported to cost in excess of $2,000,000, with machinery. John E. Kelley is president; and J. N. Harvey, treasurer.

Detroit, Mich.—The Detroit Paper Sales Company has been incorporated with a capital of $30,000, to deal in paper products of various kinds. The incorporators are George F. Carroll, R. M. Foley, both of Pontiac, Mich.; and William J. O'Donoghue, Webster Hall, Detroit. The last noted is representative.

New York, N. Y.—Peerstaco, Stationers, Inc., has been incorporated with a capital of 100 shares of stock, no par value, to deal in writing papers and kindred paper stocks. The company is represented by A. B. Nathan and S. H. Imbrey, 100 William street, New York.

Chicago, Ill.—The Arrow Playing Card Company has been incorporated with a capital of $30,000, and registered office at 800 South Sibley street, to operate a local plant for the manufacture of playing cards, and other bristol and paper specialties. The incorporators are Louis Grollman, A. Allan Schlesinger and Charles Harris.

Baltimore, Md.—The Apex Razor Blade Corporation, Room 1114 Munsey Building, is desirous of getting in touch with manufacturers of paper wrappers, boxes, labels, etc., suitable for wrapping, packing and shipping of razor blades, etc.

Boston Paper Market Conditions

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 20, 1927.—Paper and paper stock generally remain fairly stable, although the business week was shorter due to the local holiday of Bunker Hill Day, June 17. Some of the offices closed on Saturday. The same prices prevail in the fine papers as a week ago. The trade is noting a return to popularity of laid papers in books, writings, and covers. Kraft is steady at the same levels. Box board is holding firm, and there has been slightly more activity during the week. Some buyers have placed orders for delivery after July 1, on account of the inventory taking. Many consumers of box board will close their establishments for the first week or ten days in July, but dealers are looking for considerable business after that period. A tone of optimism is prevalent among the mills.

In paper stock there is some business, but consumers are not buying as much as was expected. Manufacturers are reluctant to pay the price asked for jute stocks. A dealer says that they do not seem willing to accept the statement that the supply is smaller on account of the textile situation. It is understood that only one buyer is active in the jute stock market and that he is willing to pay the prices asked. Consumers as a rule these days are loath to pay sufficiently high prices for scrap burlap to enable wholesalers to buy it and sell at a profit. Wholesalers are paying $1.35 for the stock. They say the expense of preparation for market brings the cost to $1.56½, and that consumers are willing to pay only $1.65. A dealer states that the wholesale trade ought to be in such a position that the cost would be $1.60, and sales to consumers at around $1.80, but the prospect for that basis does not seem near. In new domestic rags a fair quantity of shirt cuttings of a grade a little lower than No. 1 has been selling at 11 cents.

Paper Mills Using Champlain Canal

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., June 20, 1927.—Pulp and paper manufacturers of the Upper Hudson Valley are making more extensive use of the Champlain Barge Canal this season than has been the case in several years and indications are that paper shipments from the Fort Edward terminal this year will be the heaviest in the history of the canal. The loading machinery at the local terminal is being kept in almost steady operation and every day or two a barge of paper is cleared for New York and other Metropolitan points. Some paper concerns are using the canal almost exclusively this summer in shipping their products.

The International Paper Company has already sent several fleets of barges loaded with paper from this terminal and is continuing its shipments on a large scale. During the past week the I. P. Co. shipped a barge load of news print which set a new record for canal barge tonnage. The barge carried 636 tons of news print consigned to the New York Daily News. Previous to this the high record was 599 tons. The record cargo required several days for loading and consisted of 994 rolls of paper.

Finch, Pruyn & Co., Glens Falls, are shipping numerous news print cargoes from the local terminal despite the fact that the company is forced to use motor trucks for the long haul between Glens Falls and Fort Edward. Late last week a two hundred ton cargo of news print paper from the Finch, Pruyn plant was loaded at the terminal here consigned to the Bronx Home Publishing Company of New York. Another barge owned by Finch, Pruyn & Co. with a capacity of 126 tons has already made two trips from Fort Edward to New York this season with paper cargoes.

The International Paper Company is engaged with plans for facilitating shipments of paper products to and from the Fort Edward mill when this plant resumes operations following the extensive improvements and alterations now under way. It was originally planned by the company to dredge the channel of the river from the canal terminal to the mill but this plan has been abandoned and instead a branch line of the D. & H. Railroad will be constructed from the terminal to the plant. To make the construction of this branch line possible it was necessary to move the Barge Canal office building at the terminal which is now used as an office by members of the State Engineering department.

Through an agreement reached with State officials this building is now being moved thirty feet east and it is understood that the laying of rails for the branch railroad will be started in a few days. The new line will run from the terminal through the mill-yards of the I. P. Co. and will be used not only for shipping the finished products but will also greatly aid in handling shipments of pulp brought in by the Barge Canal.

Union Bag To Repair Cheboygan Mill

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., June 13, 1927.—The Kingsbury Construction Company, of this village, was recently awarded a contract by the Union Bag and Paper Corporation for repairs and improvements to the paper mill at Cheboygan, Mich. The contract work includes, in addition to a number of repairs, some new construction. Several weeks will be required to complete the contract on which work is being rushed.

Paper Organizations Support Training Camps

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 11, 1927.—Appleton Coated Paper Company and Hayton Pump and Blower Company, of Appleton, Wis., have given their indorsement of the Citizens Military Training Camps by permitting employees to attend with full pay up to a certain number. The Patten Paper Company, Ltd., took this action a week ago as a means of encouraging the training camp idea.

International Paper Co. Starts Gatineau Mill

First Paper Machine of the Big New Plant Starts the Production of Paper on a Commercial Basis and Three Additional Machines Are to Begin Operation Within the Next Few Months—Machines Are the Largest in the World, Trimming 256 Inch and Operating Speed is 1,200 Feet Per Minute—Excellent Timber Supply

The first paper machine at the Gatineau mill of Canadian International Paper Company has begun production of paper on a commercial basis. The other three machines will begin production within the next few months. They are designed to produce a sheet of paper 256 inches wide; to run at a speed of 1,200 feet a minute. Each machine will have an ultimate capacity of

shipment of paper possible seven months in the year; and has an abundant and excellent supply of labor

Investment of Over $100,000,000

The Canadian International Paper Company, on completion of the Gatineau Mill, will have an investment of over $100,000,000. It owns, in addition to Gatineau

World's Largest Machines Equipped With The

Briner Economizer

Licensed Under Patents of E. A. Briner and John E. Alexander

An event of importance to the entire industry is the news that the first of four new Gatineau machines has started production. The start of this huge machine is a challenge to those who entertain prophecies of dire conditions for the paper industry. It points the way toward bigger business for those who will make it with modern methods of manufacturing.

The world's largest machine—as well as three others soon to start production—is equipped for most efficient operation. Briner Economizers have been installed to insure lowest cost of steam per pound of paper. Here is striking testimony substantiating the merit of Briner Economizer method of utilizing waste heat to save steam.

Don't wait until cold weather sets in before considering Briner Economizers for your mill. Consult us. No obligation.

J. O. ROSS ENGINEERING CORPORATION

208 W. Washington Street
CHICAGO

Main Office - 30 E. 42nd Street
NEW YORK

1117 Tacoma Ave.
TACOMA, WASH.

ROSS ENGINEERING OF CANADA, LIMITED

New Birks Bldg.—Montreal

ROSS SYSTEMS

HEATING—VENTILATING—DRYING

New York Trade Jottings

There was a satisfactory attendance of members at the regular weekly luncheon and meeting of the Salesmen's Association of the Paper Industry, held at the Canadian Club, New York, last Monday.

* * *

Dr. Hugh P. Baker, secretary of the American Paper and Pulp Association, is bound for the Pacific Coast, where he plans to spend four weeks, inspecting the paper and pulp mills, from Los Angeles, Cal., to Vancouver, B. C.

* * *

The current issue of the *International Paper Monthly* contains a profusely illustrated supplement describing comprehensively the Hudson River Mill. This artistic insert is printed on Colonial offset paper, made by the Ticonderoga Pulp and Paper Company, a division of the International Paper Company.

* * *

The value of practical co-operation in the paper industry is seen in the fact that a group of the members of the Glazed and Fancy Paper Manufacturers Association, of which R. N. Fowler, of the Hampden Glazed Paper and Card Company, is president, are meeting together for luncheon in Pawtucket every two weeks for discussion of common problems. The secretary of the association, O. M. Porter, with offices at 18 East 41st street, New York, met with this group on June 15 to discuss an expansion of the association's statistical service.

* * *

The Binders Board Manufacturers Association is meeting for luncheon at the Canadian Club, New York, today, Thursday, June 23, to discuss trade conditions, co-operative advertising, and further efforts to secure standardization of stock sizes. The association, through T. J. Burke, secretary of the Cost Association of the Paper Industry, is making a cost survey among its member mills with a view to preparing a uniform cost accounting method which will cover all items of cost in the manufacture of binders board and which can be used by the members of the association.

* * *

Walter H. Aldridge, president of the Texas Gulf Sulphur Company, has sent a letter to stockholders announcing that "arrangements have been recently concluded by which the Texas Gulf Sulphur Company will have an opportunity to explore a number of deposits on which sulfur has been found. While some of these deposits show favorable indications from preliminary drilling, it is impossible at this time to tell whether another commercial deposit will be developed on any of these lands, but should the company be successful, a new plant or plants will be constructed and operated. As your company owns the lands at Gulf in fee, no royalties have been paid on the sulfur produced, but if sulfur is produced from any of the new properties, then it will be necessary t opay royalties, etc., to those with whom the above arrangements have been made."

* * *

In a ruling granting free entry to news print paper imported by Maurice O'Meara Company, Judge Fischer, of the United States Customs Court, writes: "The appraiser's report herein is as follows: 'The merchandise is described as standard news print paper. It was originally returned as not being made in accordance with the requirements of T. D., 39,775, entitled it to free entry, and was returned at ¼c per pound and 10 per cent ad valorem under paragraph 1301. The importers' affidavit now submitted and attached to the invoice would be accepted by this office and the merchandise now returned free of duty under paragraph 1672 as claimed in the protest and as now reported on the invoice.' On the conceded facts, we hold the present merchandise properly entitled to free entry under paragraph 1672 of the act of 1922 as standard news print paper. The protest is, therefore, sustained and judgment order will issue accordingly."

Recent Decision on Paper Imports

Importers of candy box padding have been defeated in their claim that this is a manufacture of pulp, dutiable at 25 per cent, in a case which was instituted in the early history of the Import Committee of the American Paper Industry, and which has just been decided by the United States Court of Customs Appeals.

The Customs Court decided adversely to the importer, who appealed, and the decision of the lower court has now been upheld. Meanwhile another case has been partially tried in which it is claimed by the Government that this commodity is an absorbent crepe tissue paper, which would be dutiable at even a higher rate than that held in the case just decided.

Recent decisions by the Customs Court involve some unique points, and are as follows:

An appeal by the importers of rotogravure paper from a previous decision finding that there had been undervaluation was dismissed by the Customs Court. The previous decision made by a single justice involved some thirty importations and was appealed to the First Division of the Customs Court.

Stencil duplicators held by San Francisco appraiser to be manufactures of paper dutiable at 35 per cent, claimed by importer to be coated paper at 5 cents per pound and 15 per cent; appraiser upheld by Customs Court.

Abrasive paper was held to be undervalued and the importer asked remission of the additional duties imposed for such undervaluation. It was shown that the undervaluation was without fraudulent intent and the Customs Court remitted the additional duties.

Bids for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 22, 1927.—The Government Printing office has received the following bids for 40,000 pounds of 24½x32—100½, chemical wood mimeograph paper: Old Dominion Paper Company, 5.74 cents per pound; P. H. Glatfelter Company, 5.9 cents; Whitaker Paper Company, 5.53 cents; American Writing Paper Company, 7.25 cents; Dobler & Mudge, 5.75 cents; R. P. Andrews Paper Company, 7.09 cents; Mathers-Lamm Paper Company, 5.75 cents; and Reese & Reese, 6.2 cents.

The Government Printing Office has received the following bids for 2,800 pounds of 22½x28½—280, yellow index as follows: Carew Manufacturing Company, at 26.5 cents per pound; Mathers-Lamm Paper Company, 18.5 cents; Whitaker Paper Company, 19.5 cents; and Old Dominion Paper Company, 18.99 cents.

The following bids were also received for the same in salmon, weight 362 lbs.: Carew Manufacturing Company, at 29.5 cents per pound; Mathers-Lamm Paper Company, 18.5 cents; Whitaker Paper Company, 19.5 cents; and Old Dominion Paper Company, 18.99 cents.

The Government Printing Office will receive bids on June 27 for 10,000 pounds of white sulphite writing paper in 17 inch rolls.

The Government Printing Office will receive bids on June 24 for 5,430 pounds (15,000 sheets) of 22½x28½—362, 50 per cent rag white index paper.

Goes With Taggart Oswego Co.

HUDSON FALLS, N. Y., June 20, 1927.—F. J. Bombard, who last week resigned his connections with the engineering department of the Union Bag and Paper Corporation in this village after many years' service, is now with the engineering department of the Taggart-Oswego Paper Bag Corporation of Oswego.

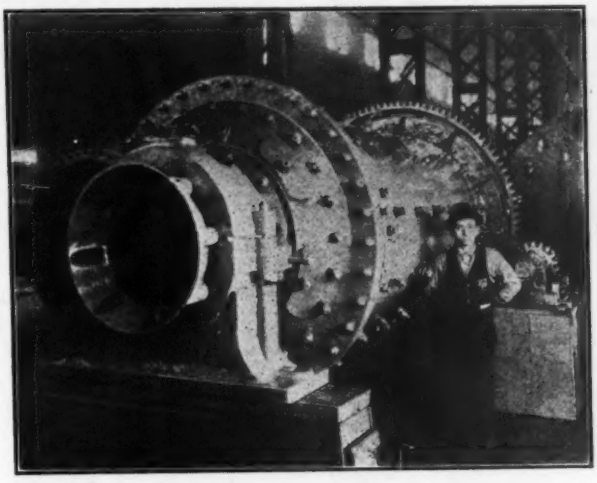
To Reduce Ground Wood Output in Norway

WASHINGTON, D. C., June 14, 1927.—Producers of ground wood in Norway have announced a reduction in the output of this class of pulp in an effort to strengthen the market and improve prices according to a cablegram from Commercial Attache Sorenson.

THE HARDINGE CO.

YORK, PA.

MANUFACTURERS OF CONICAL ENDED ROD MILLS



Standard Hardinge Conical Rod Mill for grinding wet or dry with variable discharge level.

ANNOUNCE

THE APPOINTMENT OF

THE GRILEY--UNKLE ENG. CO.

FT. WAYNE, IND.

AS THEIR

SOLE SELLING AGENTS

IN THE PULP AND PAPER INDUSTRY

for the

UNITED STATES AND CANADA

"When You Say Rod Mills You Think of Hardinge"

Write for Bulletin 25

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending April 30, 1927 and for the Four Months Ending April 30, 1927 as Compared with Corresponding Months of Previous Year

IMPORTS—PAPER

	April				Four Months Ending April 30			
	1926		1927		1926		1927	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Paper and manufactures (total)	.....	$12,584,759	.....	$11,317,487	.....	$44,834,594	.....	$45,931,575
Printing paper—								
Standard news print ....lbs...free	336,926,073	11,219,379	295,470,778	9,803,160	1,174,070,251	39,694,725	1,229,156,930	40,695,373
Imported from—								
Finland	9,805,624	293,317	3,132,121	86,941	17,357,677	519,848	20,180,968	580,355
Germany	4,984,585	150,148	1,502,194	41,178	18,217,848	538,199	5,465,789	163,857
Norway	.....	.....	2,226,810	60,827	1,278,338	38,409	12,446,182	336,060
Sweden	6,466,723	200,119	6,423,239	190,657	29,414,208	909,941	49,394,210	1,431,292
Canada	315,667,741	10,575,733	282,031,730	9,418,798	1,089,305,785	37,093,677	1,126,902,587	37,667,563
Newfoundland and Labrador	.....	.....	.....	.....	17,884,201	573,857	14,440,152	506,272
Other countries	1,400	62	154,684	4,759	612,194	20,794	327,042	9,974
All other, n. e. s.....lbs...dut.	1,970,704	103,876	1,138,086	53,536	4,699,108	244,755	3,551,977	171,094
Grease-proof and waterproof papers..lbs...dut.	351,235	57,088	119,826	26,887	864,672	138,591	572,433	104,448
Kraft wrapping paper .....lbs...dut.	874,822	38,536	478,109	21,288	2,976,365	127,640	2,355,973	106,606
All other wrapping paper .....lbs...dut.	352,244	21,400	131,880	7,766	1,641,511	141,493	1,838,059	89,828
Writing, drawing, bond, etc.....lbs...dut.	290,559	63,730	250,240	58,258	1,266,718	258,017	901,899	210,463
Surface coated .....lbs...dut.	131,136	50,623	142,501	64,189	611,970	240,489	632,010	248,346
Tissue paper .....lbs...dut.	306,044	128,190	282,873	163,073	1,013,833	450,523	1,053,395	590,471
Pulp boards in rolls.....lbs...dut.	7,221,533	173,385	6,709,818	161,951	27,586,979	673,922	20,085,765	492,094
Other paper boards, n. e. s.....lbs...dut.	.....	90,463	.....	75,808	.....	254,255	.....	345,424
Cigarette paper, cigarette books, and covers .....lbs...dut.	753,259	197,954	1,160,601	323,271	2,674,603	724,188	3,226,248	927,831
Hanging paper .....lbs...dut.	369,264	49,314	124,197	39,668	1,386,208	246,025	1,122,745	258,765
Paper boxes .....lbs...dut.	186,670	91,882	390,145	159,294	725,869	350,363	860,989	461,332
Pulp or papier-mâché and manufactures of, n. e. s. .....lbs...dut.	60,839	19,143	76,523	19,411	867,467	140,645	850,240	138,631
Duplex decalcomania, not printed....lbs...free	57,660	14,435	99,019	16,994	196,769	49,934	253,417	53,784
All other .....dut.	.....	265,361	.....	322,933	.....	1,099,029	.....	1,037,085

WOOD PULP

Mechanically ground wood pulp.....tons..free	14,166	450,990	17,654	466,563	79,075	2,335,348	66,625	1,912,930
Sulphite wood pulp .....tons	68,156	4,681,360	54,992	3,712,343	287,442	19,113,158	277,327	18,326,421
Unbleached .....tons..free	42,116	2,482,116	27,891	1,595,937	187,325	10,914,471	176,606	10,309,091
Bleached .....tons..free	26,040	2,199,244	27,101	2,116,406	100,117	8,198,687	100,721	8,017,330
Imported from—								
Finland	10,444	581,493	7,200	390,781	19,266	1,044,981	26,286	1,426,149
Germany	6,427	475,250	6,617	450,725	27,458	1,881,915	22,940	1,638,625
Norway	7,687	652,060	4,300	324,195	25,338	2,057,363	22,093	1,699,802
Sweden	7,317	472,829	8,404	552,102	65,846	4,059,179	88,115	5,499,405
Canada	33,747	2,369,094	26,140	1,842,652	135,805	9,290,733	105,088	7,240,836
Other countries	2,534	130,634	2,331	151,888	13,729	778,987	12,805	821,604
Sulphate wood pulp, unbleached (Kraft pulp) .....tons..free	22,785	1,434,383	17,851	1,129,790	89,181	5,666,910	93,020	5,855,837
Imported from—								
Finland	4,444	252,335	2,059	117,124	7,130	401,501	3,740	211,051
Norway	913	60,059	707	43,048	2,641	172,830	3,323	202,016
Sweden	5,654	339,076	3,805	231,616	29,352	1,769,306	41,808	2,555,668
Canada	11,346	754,260	11,121	728,486	48,124	3,206,741	43,770	2,865,173
Other countries	428	28,653	159	9,516	1,934	116,532	379	21,929
Sulphate wood pulp, bleached.....tons..free	438	35,439	850	61,232	4,491	309,810	7,183	477,659
Other pulp .....tons..free	149	7,708	70	9,820	547	26,220	685	55,517

CRUDE PAPER STOCK

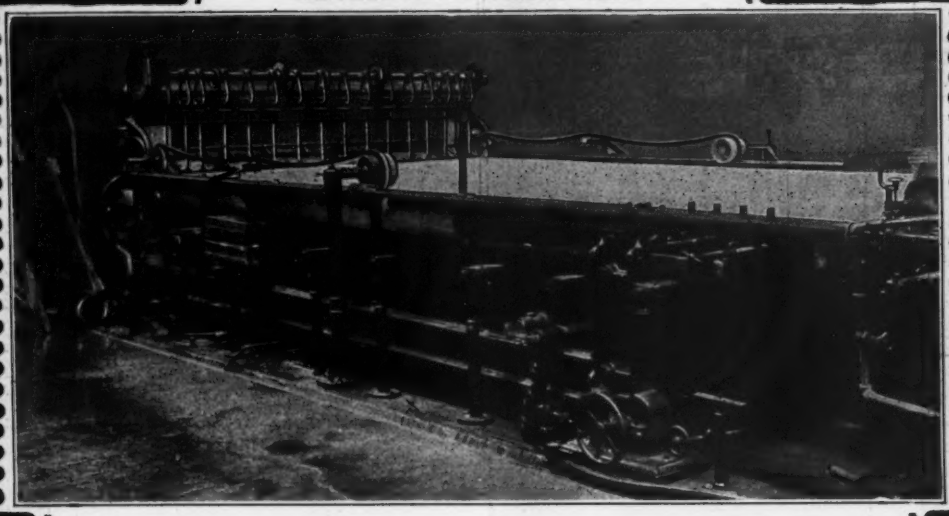
Rags for paper stock.....lbs...free	52,125,222	1,126,434	30,644,217	678,392	188,769,818	4,439,844	128,974,944	2,761,918
Waste bagging, waste paper, etc.....lbs...free	12,383,815	268,111	5,867,329	74,422	45,860,361	955,288	24,737,968	350,055
Old rope and all other paper stock....lbs...free	7,217,397	295,203	5,329,900	185,455	27,249,802	1,319,478	18,466,460	608,242

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS

Colors, dyes, stains, color acids, and color bases, n. e. s.....lbs...dut.	271,861	301,437	766,275	817,049	1,394,875	1,576,359	2,656,844	2,974,120
Imported from—								
Belgium	19,240	26,952	25,208	38,993	73,575	112,502	85,565	126,373
France	8,042	13,058	45,061	46,945	88,844	118,158	81,214	94,568
Germany	61,871	59,490	517,722	517,230	481,862	517,332	1,707,857	1,813,274
Italy	11,237	12,640	30,200	39,558	35,014	36,961	49,342	58,686
Switzerland	156,827	172,252	112,794	142,740	626,241	693,299	612,586	760,992
United Kingdom	10,470	11,492	23,522	20,584	59,965	57,455	81,227	77,769
Other countries	4,174	5,593	11,768	10,999	29,374	40,652	39,053	42,458
Casein or lactarene .....lbs...dut.	2,925,740	257,836	2,808,041	348,935	9,484,890	825,853	10,515,698	1,236,832
Kaolin, china, and paper clay.....tons..dut.	17,601	204,609	28,009	262,874	115,246	1,153,605	96,712	949,416

(*Continued on page 36*)

Invest in a Voith Inlet



Paper of Uniform Caliper Not a Problem with Voith Inlet

The Voith Inlet gives you accurate control over the stock as it flows onto the Fourdrinier wire. It is easy to make a sheet of uniform thickness across the entire width of the wire, avoiding thin edges next to the deckle and at the same time, the Inlet helps to eliminate lumps and foam spots. The stock stream can be regulated either as a whole across the full width of the sheet or locally at any point. Proper adjustments are easily made while the machine is running. These minute adjustments enable the machine tender to produce a sheet of uniform thickness with a minimum of effort and without the troublesome and old fashioned slices. Information concerning the many other advantages of the Voith Inlet will be forwarded to you on request. Write today.

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Avenue

Western Manufacturing Smith & Valley Portland and Sales Division Iron Works Co., Oregon

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(*Continued from page 34*)

EXPORTS—PAPER

	April 1926 Quantity	April 1926 Value	April 1927 Quantity	April 1927 Value	Four Months Ending April 30 1926 Quantity	Four Months Ending April 30 1926 Value	Four Months Ending April 30 1927 Quantity	Four Months Ending April 30 1927 Value
Paper and manufactures (total)	.....	$2,544,596	.....	$2,361,841	.....	$9,108,662	.....	$9,180,480
Printing paper—								
News print paper ....lbs.	4,778,161	228,505	2,145,001	100,853	15,528,316	733,231	9,909,161	459,211
Exported to—								
Canada ....lbs.	379,440	25,612	299,424	20,347	532,908	39,520	1,087,688	59,549
Central America ....lbs.	230,909	9,996	53,261	2,300	607,769	27,175	203,900	9,950
Mexico ....lbs.	101,430	5,355	19,450	1,004	424,114	22,614	227,720	9,927
Cuba ....lbs.	751,582	33,032	708,461	32,908	2,831,021	120,549	1,814,695	84,245
South America ....lbs.	1,062,080	46,820	246,120	9,701	3,446,501	159,109	2,217,807	92,993
China, Hongkong, and Kwantung ....lbs.	495,823	21,019	.....	.....	3,318,207	153,581	286,120	16,651
Japan ....lbs.	386,306	16,977	36,592	2,670	1,286,137	58,727	58,547	3,602
Philippine Islands ....lbs.	1,052,433	53,020	709,986	26,767	2,187,979	104,936	3,464,324	137,692
Other countries ....lbs.	318,158	16,674	71,707	5,156	893,680	47,020	548,360	34,602
Book paper, not coated ....lbs.	1,441,883	141,546	1,118,746	104,367	5,308,086	525,132	5,124,426	441,612
Exported to—								
United Kingdom ....lbs.	1,421	340	76,918	5,557	22,615	3,538	78,471	5,978
Canada ....lbs.	355,531	33,149	298,144	23,051	1,008,915	107,912	1,146,474	95,210
Central America ....lbs.	52,103	8,561	19,583	2,109	237,124	26,414	108,764	10,854
Mexico ....lbs.	153,363	14,121	43,420	5,284	620,182	62,796	171,455	18,687
Cuba ....lbs.	299,238	27,500	157,306	14,109	840,088	79,840	608,264	53,512
Argentina ....lbs.	77,785	7,581	2,330	246	226,132	21,572	339,577	26,975
Other South America ....lbs.	177,209	19,332	89,375	7,065	586,788	60,698	966,144	68,399
China, Hongkong, and Kwantung ....lbs.	53,531	5,542	25,976	6,570	576,431	48,813	285,292	29,657
Philippine Islands ....lbs.	105,973	9,161	41,459	6,082	589,680	50,123	385,825	34,077
Australia ....lbs.	51,464	4,277	33,311	4,322	173,030	17,974	296,365	29,777
Other countries ....lbs.	114,264	11,982	330,924	29,972	426,901	45,452	737,795	68,486
Cover paper ....lbs.	126,942	25,027	121,283	24,644	525,185	91,404	500,500	91,846
Grease proof and waterproof paper....lbs.	184,917	36,718	297,699	42,155	739,624	116,238	761,159	107,625
Wrapping paper ....lbs.	3,186,829	232,057	2,714,238	206,133	11,081,841	830,525	11,003,034	785,230
Surface coated paper ....lbs.	954,395	103,919	329,913	47,413	2,677,994	310,291	2,420,617	303,181
Tissue and crêpe paper ....lbs.	415,124	98,921	386,427	80,966	1,233,479	322,713	1,385,820	304,567
Toilet paper ....lbs.	573,038	74,747	424,123	63,854	1,686,729	211,971	1,692,975	225,438
Paper towels and napkins ....lbs.	190,327	25,917	247,507	26,369	650,073	87,821	701,322	95,572
Box board ....lbs.	3,518,166	101,983	3,863,219	122,323	14,984,212	425,943	16,357,906	507,310
Bristols and bristol board....lbs.	125,089	19,116	131,927	17,059	437,221	63,058	853,719	68,802
Other paper board and straw board....lbs.	3,641,063	182,534	3,943,575	226,453	12,519,890	668,494	13,354,119	697,256
Sheathing and building paper....lbs.	1,039,067	43,359	1,165,900	41,554	3,544,473	161,388	4,704,752	188,576
Wall board of paper or pulp....sq. ft.	1,427,355	42,923	3,895,614	133,677	6,228,431	204,903	15,353,814	520,613
Blotting paper ....lbs.	227,721	36,276	288,858	34,617	1,145,923	150,879	1,141,333	131,489
Filing folders, index cards, and other office forms ....lbs.	77,555	24,507	72,611	23,113	323,436	88,055	418,948	107,288
Papeteries (fancy writing paper)....lbs.	44,632	13,858	69,756	15,824	177,640	65,049	191,710	48,933
Other writing paper ....lbs.	1,076,828	169,923	922,833	136,676	3,183,160	549,834	3,409,933	598,315
Paper hangings (wall paper)....yds.	2,440,609	64,152	1,821,370	53,625	12,593,428	291,916	412,533,022	270,166
Paper bags ....lbs.	1,141,193	93,133	957,033	81,269	4,284,657	385,964	5,119,522	437,649
Boxes and cartons....lbs.	1,713,796	121,211	1,971,966	135,473	6,767,559	466,676	6,644,803	451,703
Envelopes ....lbs.	292,584	48,856	224,334	43,316	860,374	162,727	904,866	155,783
Vulcanized fiber sheets, strips, rods, and tubes ....lbs.	603,265	185,149	581,552	166,015	2,027,074	579,212	1,706,711	520,805
Manufactures of vulcanized and indurate fiber ....lbs.	61,871	14,151	248,555	31,896	147,700	48,711	362,214	63,371
Cash register and adding machine paper....lbs.	138,852	14,605	121,857	12,472	572,555	61,074	515,980	56,470
Other paper and paper products	.....	401,503	.....	389,725	.....	1,505,453	.....	1,541,669

WOOD PULP AND PAPER STOCK

Sulphite wood pulp ....tons	1,949	128,758	1,737	104,529	7,301	491,691	6,610	403,731
Soda wood pulp ....tons	316	25,360	281	26,819	786	69,335	599	54,835
Other wood pulp ....tons	204	14,470	164	10,622	2,024	335,124	690	30,995
Rags and other paper stock....lbs.	22,281,300	324,832	19,962,102	340,316	66,824,768	961,582	68,509,386	1,013,208

PAPER AND PULP MILL MACHINERY

Paper and pulp mill machinery....lbs.	836,859	257,370	1,091,448	230,192	3,438,329	928,811	8,427,132	1,687,720

Bailey Meter Co. Issues Bulletin

The Bailey Meter Company, of Cleveland, Ohio, has just issued a 24 page bulletin No. 131 descriptive of a new line of electrically-operated Fluid Meters which may be used to indicate, record and integrate the flow of steam, water, air, gas and other fluids. Due to the electrical principle of operation, the indicating, recording and integrating instruments can be arranged in any combination, or located at any distance from the pipe line in which the flow is being measured. These meters have been designed so they are unaffected by ordinary voltage variations, and consequently do not require the use of voltage regulators to maintain a constant voltage. The bulletin contains a number of illustrations showing applications of these meters for measuring the steam consumption of machines, processes, etc.

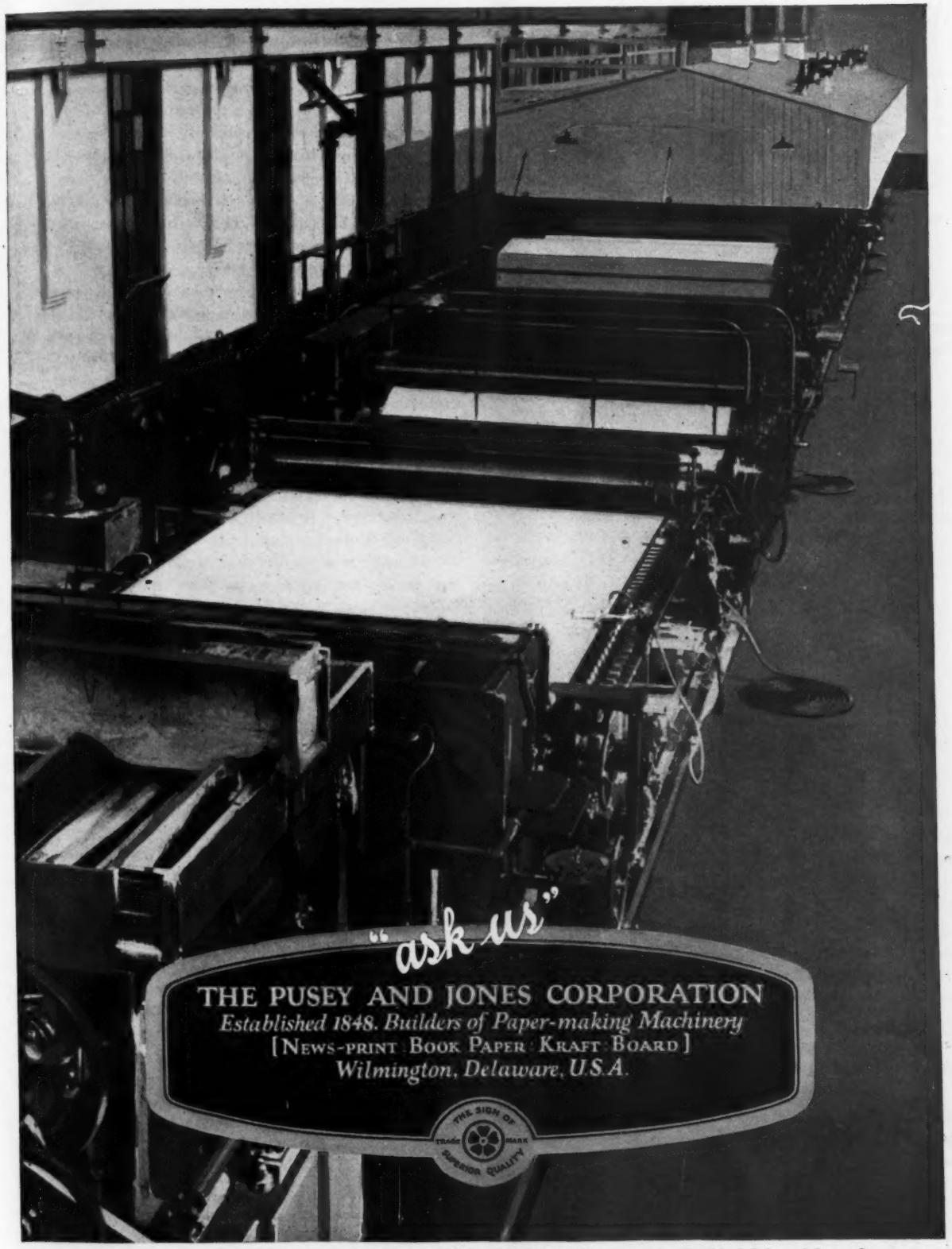
News of the Boston Paper Trade

BOSTON, Mass., June 20, 1927.—The Boston office of Chas. A. Esty Paper Company, now at 125 Pearl street, is to be at 288 Congress street on or before January 1.

Percy D. Wells has issued the June Number of Wells' Money Saver, "not a house organ," but "an income producer." The name was formerly "Money Maker."

Among the men in the trade recently were A. C. Archibald, of the Nekoosa-Edwards Paper Company, Wisconsin; S. C. Haner, of the S. C. Haner Company, Chatham Center, N. Y., and Howard Miller, of the New York office of the Howard Paper Company.

George Crafts, of the Oreno (Me.) Pulp and Paper Company, was in Boston last week on his way home from a two weeks' automobile trip.


"ask us"
THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-making Machinery
[NEWS-PRINT BOOK PAPER KRAFT BOARD]
Wilmington, Delaware, U.S.A.
THE SIGN OF TRADE MARK SUPERIOR QUALITY

Illustrating the 160-inch Book Paper Machine designed and built by The Pusey and Jones Corporation for The Mead Pulp and Paper Company, Chillicothe, Ohio . . . This is the third Puseyjones Machine built for this company and is one of four Puseyjones Book Paper Machines built in 1926.

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PAPER TRADE JOURNAL
ESTABLISHED 1872

Henry J. Berger
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Vol. LXXXIV New York, June 23, 1927 No. 25

THE POWER PLANT SECTION

On the first page of this issue an explanation is presented of a new department which is to be a regular feature of the PAPER TRADE JOURNAL and which it is firmly believed will prove extremely valuable. It should render a distinct service, and those to whom it should appeal have it in their power to make the section an outstanding achievement in trade paper journalism. To do so will call for whole hearted and generous response to calls made upon them for information regarding their experience with power plant equipment. It is only by so doing that they can gain the benefit of the investigations to be conducted by Mr. Trautschold.

In his introductory installment, the new Power Engineering Consultant of the PAPER TRADE JOURNAL has outlined his plan and the objective in view. He points out the importance of power production considerations and, though himself an engineer, places the responsibility for their control and direction in managerial, rather than technical, hands. He makes a strong plea for cooperation and help and in this the PAPER TRADE JOURNAL unqualifiedly seconds him.

Cooperation is a potent instrument of progress when skillfully directed and it is believed that cooperation with power plant equipment manufacturers through the intermediary of Mr. Trautschold will have highly beneficial results to the industry. Mr. Trautschold has no affiliations with any manufacturer of power plant equipment and he can be counted upon to weigh all claims advanced for the equipment he investigates with unbiased judgment and to present only authenticated information regarding the equipment he will discuss.

The activities of the new department will in no way trespass upon or interfere with the splendid work of the Technical Association of the Pulp and Paper Industry conducted by Mr. MacNaughton. They will treat solely with the power plant proper and supplement the Association's work, adding to the importance of its functions by paving the way for more economical and efficient paper making.

Mr. Trautschold's plan of reducing power costs through "unit treatment" is sound. It deserves all the assistance subscribers of the PAPER TRADE JOURNAL can render.

ELIMINATING UNETHICAL PRACTICES

The practicability of setting up a working arrangement by which government and business can cooperate to eliminate economic wastes due to questionable or unethical trade practices is pointed out by Judge Edwin B. Parker, chairman of the Board of Directors of the United States Chamber of Commerce.

Reviewing the decisions of the United States Supreme Court and declarations of the Federal Trade Commission, Judge Parker points out that the way is open for business first to pass upon trade practices through joint trade relations committees and that these findings then may be gone over by the Federal Trade Commission in the interest of the general public.

Judge Parker's views were made known in a recent statement before the Domestic Distribution Section of the Chamber at a meeting which took up the progress that has been made in the creation of trade relations committees. These committees are now operating in a number of industries, and represent manufacturers, wholesalers and retailers within the industry. The plan of the Chamber is to encourage during the coming year the extension of the committees into other industries, the eventual idea being that all industries thus will be able to work out such measures of self-regulation as to make it unnecessary for the government to intervene through any of its regulatory agencies.

This represents, according to Judge Parker, the practical application of three of the 15 principles of business conduct formulated three years ago by a special committee of which Judge Parker was chairman and adopted by the National Chamber and commercial organizations throughout the country.

"It frequently happens," says Judge Parker, "that trade associations are made up of those engaged in the same branch of the same trade or industry, while many of the trade customs which are wasteful have grown up between those engaged in different branches of the same trade or industry; for example, between the manufacturer and the wholesaler, or between the wholesaler and the retailer. The suggestions which have been made to you contemplate the formation of a Joint Trade Relations Committee along vertical lines embracing representatives from every branch of the industry and bridging the gaps between trade associations representing only distinct branches of that industry. Such a committee, formed for the purpose of seeking out and defining practices which are wasteful and which in the interest of the trade as a whole should be eliminated, will find customs which, even if originally useful, have outgrown their usefulness and become wasteful, or customs which have been forced upon some of the members of a trade against their better judgment.

"Where representative individuals in each branch of an industry agree that a particular practice constitutes a trade abuse, it is apt to be such. However, there is another interested class—the ultimate consumer—whose voice should be heard that the trade as a whole may not gain any undue or selfish advantage at his expense. This class may properly be represented by the Federal Trade Commission, a wholly disinterested public agency. When the Joint Trade Relations Committee, formed in the manner which has been suggested to you, agrees that a particular practice constitutes a trade abuse and its report is approved by the Federal Trade Commission, it may be safely accepted as not only in the interest of the trade but in the general public interest.

"The last annual report of the Federal Trade Commission out-

lines the procedure of the 'Division of Trade Practice Conferences' adopted during the fiscal year ended June 30, 1926, which, in the language of that report, 'provides a method of procedure whereby those engaged in an industry or business may formulate, under the direction or sanction of the commission, their own rules of business conduct.' The report continues:

"This procedure has proven an expeditious and economical means of eliminating the use of unfair methods of competition from industry by assembling in conference representatives of a given industry who under the direction of the commission define and on a given date voluntarily and simultaneously abandon the use of such methods, thereby putting all competitors on an equal footing. In addition it induces moral support and actual assistance from the industry in the enforcement of the rules which the industry adopts and accomplishes at a minimum of cost, and time, one of the chief purposes for which the commission was created. * * *

"When the industry has adopted its rules a full report of the conference showing those present, the proportion of the total industry which they represent, and other essential data is presented to the commission; and if adopted or sanctioned by the commission, the action of the industry becomes the rule of business conduct for that industry on the subjects covered. * * *

"The findings by an industry condemning a given business practice are available to the commission for use as evidence in any proceeding directed to an individual member of the industry who fails or refuses to abide by the rules of conduct laid down by the industry, and who indulges in practices condemned by the industry and by the commission as unfair, and the division of trade practice conferences furnishes a means whereby an agreement once entered into may be kept in effect and better attention given to violations."

Here is a carefully phrased official report of the Federal Trade Commission expressing, not only its willingness to cooperate with business in its effort at self-regulation for the elimination of trade abuses, but prescribing a simple method for the accomplishment of that end. This offers to business an opportunity in good faith to set up simple machinery in each trade diligently to seek out the abuses which unquestionably exist to a greater or less extent in every industry, and to take effective measures to eliminate them.

Commercial Arbitration

Arbitration is a logical means of settling commercial disputes. That its value to industry is being more and more appreciated is seen in a recent request to the American Paper and Pulp Association from the Law School of Yale University for information regarding the extent to which commercial arbitration is effective in the paper industry.

The Association has developed very practical co-operation with the American Arbitration Association and has been instrumental in satisfactorily settling a number of disputes in the paper industry during the last few years.

Members of the Association are urged to make use of its facilities for arbitration as a means of settling commercial disputes without the necessity for prolonged costly legal proceedings.

To Sell Kraft for Seibert Paper Co.

CHICAGO, June 20, 1927.—L. J. Vanderberg, well-known in the paper trade as Manufacturer and Salesman, is now connected with the Seibert Paper Company, Chicago, and will travel representing the company on Kraft paper exclusively.

Our Disappearing Forests

Montreal, Que., June 20, 1927.

Editor, PAPER TRADE JOURNAL:—

In a recent editorial a Quebec newspaper said:

"Every time the report on the lumber industry or its most active branch (paper) is put before us, we are inclined to ask ourselves if our resources will hold out very long under this intensive exploitation. We have the assurance of the administration in the Province of Quebec that the annual cut is smaller than the annual growth. Our situation is therefore favorable."

The doubt expressed by the editor in the above is far more intelligent and honest than the "assurance" given by the administration, namely, "that the annual cut is smaller than the annual growth."

Every well-informed forester who has been in the Canadian woods any time during the past two or three years knows that the annual growth is now far more than wiped out by wind-fall alone, while in addition to losses from wind there is the enormous loss occasioned by insects, fungi and fire to be accounted for as well as an enormous and steadily increasing annual cut.

It does not require expert knowledge to appreciate the fact that the fear expressed is well founded and that, under present conditions, our forest resources will, as the Hon. George P. Graham so tersely expressed it "soon be but a memory."

Reforestation at this late date, while necessary for posterity, will not avail the present generation. The seedlings we are planting today will take forty to sixty years to reach even pulpwood size and as our present forests will have disappeared long before that time, all the reforestation in the world cannot prolong the life of our present vast pulp and paper industry for one day.

The Canadian people must not allow themselves to be deceived into believing that the reduction in forest fire loss during the past three seasons is wholly due to our increased preventative measures, but rather to favorable weather conditions. Our extremely hazardous fire seasons come in cycles of four or five years. The next really dry year we experience we may expect the worst forest fires Canada has ever known, on account of the vast accumulation of dead, dry, wind-blown trees and the enormous quantity of dry tops and waste logging slash with which our forests are now dangerously burdened.

The time has come for the Canadian people to wake up!

FRANK J. D. BARNJUM.

Useful Reports on Raw Materials

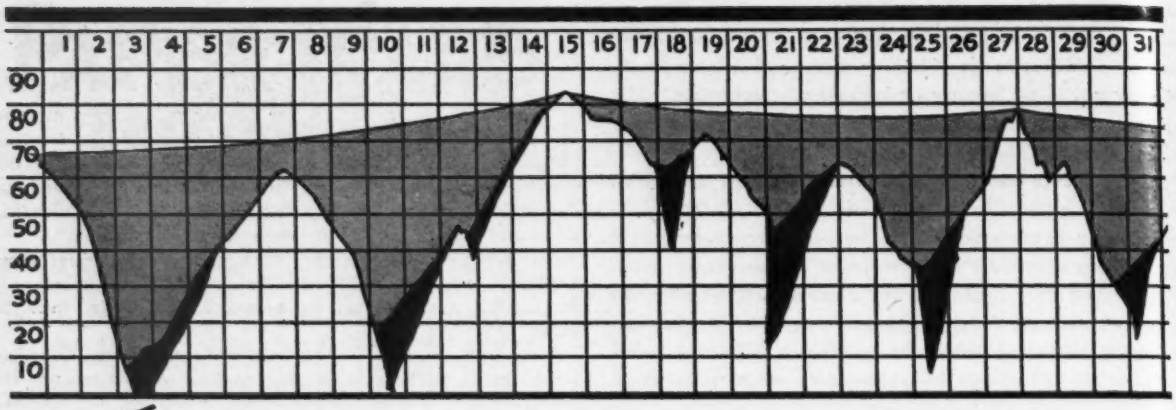
In addition to its regular weekly review of business conditions and its monthly statistical summary of the pulp and paper industry, as well as other useful reports, the American Paper and Pulp Association, through its statistical department, is preparing a series of reports on the raw materials of the paper industry. Preliminary reports covering casein, glue, and rosin have already been sent to its members. It is expected that these reports will be issued from time to time in order to cover the changing conditions in these raw materials as affecting the paper industry and that other similar reports will be published in this series.

While the development of statistics is only one phase of the American Paper and Pulp Association's work and service to its members, yet its reports are becoming recognized as accurate reflections of conditions in the industry and are being used more and more extensively by the executives of its member mills as a basis for their future operation.

Paper Index Number Lower

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 21, 1927.—The wholesale index number for the paper and pulp industry for May was 152.7 compared with 154.8 for April and 175.3 for May of last year taking 1919 at 100 per cent according to the Bureau of Labor Statistics, Department of Labor.



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Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

Determination of Copper Numbers of Cellulose Materials[1, 2]

By C. J. Staud and H. LeB. Gray: Eastman Kodak Co., Rochester, N. L.

A proportion of the copper sulphate and alkaline tartrate of Fehling solution, Soxhlet modification, has been found which gives no black precipitate on heating, a minimum blank, and a negligible autoreduction.

Study of the effect of time and temperature of heating on the copper number shows in all cases an increase in copper number until heating has been continued for 30 minutes, and after that a constant value. Rag pulp heated with Fehling solution for 30 minutes at 100 degrees C. and 2 hours at 75 degrees C. gives a copper number corresponding to the lower temperature. If the filtrate resulting from this treatment is heated for some time at 100 degrees C. a few milligrams of cuprous oxide are precipitated. If the material is left in the solution and heating continued at the higher temperature for 2 to 3 hours a value intermediate between those at 100 degrees and 75 degrees C. is obtained.

The cuprous oxide which dissolves when the temperature is lowered from 100 degrees C. to 75 degrees C. is shown to be in solution in the cuprous state. The results are roughly quantitative. The reduced copper is determined by the method of Knecht and Thompson, using ferric alum.

A modification of the Schwalbe method for determining copper numbers is proposed, and the results of its application to a variety of materials are exhibited.

The Schwalbe[1],* method for the determination of the copper number of cellulose as given in the report of the Committee on Cellulose of the Cellulose Division of the AMERICAN CHEMICAL SOCIETY[3] leads to erratic results. In some cases negative numbers are obtained—i. e., the copper obtained from the sample is less than that found in the blank. To ascertain, if possible, the cause of these variations was the object of this investigation.

Since the assumption that the adsorption of cupric compounds from hot Fehling solution is the same as from the cold solution rests on very meager evidence, it would seem advisable to eliminate the cellulose number if possible. A method that determines the reduced copper only was adapted by Knecht and Thompson[2] to cellulose work from the quantitative method given by Sutton[4] for copper in ores. This consists in treating the reduced copper with ferric alum solution and titrating the ferrous ion with permangenate. Chilbens and Geake[5] have used this method and have obtained the reduced copper by use of a carbonate-bicarbonate solution of copper, the Braidy method.[6] Benesch[7] adapted to cellulose the method of Andanti[8] for reducing sugar in which the cuprous oxide is determined by the use of ferric alum. This work appeared after the present investigation had been concluded. The ferric alum method has been used throughout this investigation.

The Schwalbe method as given in the report of the committee[3] gave various amounts of cupric and cuprous oxide in the blank. The amount of these precipitates appears to be related to the ratio of the components and the temperature at which the solutions are heated. Schwalbe[9] attempts to obviate this difficulty by using a definite size of flame, a special type of burner, and asbestos shields.

Quisumbing and Thomas[10] have shown that by varying the ratio of alkaline tartrate to copper, the volume and other components being kept constant, the cuprous oxide obtained from a definite amount of dextrous varied. This suggested that by varying the concentration of alkaline tartrate a ratio might be found which would give no cupric and a minimum of cuprous oxide in the blank.

The Solution

The alkaline tartrate and copper sulphate solution were made up as directed in the method of the committee.[3]. Because of the nature of cellulose it was considered advisable to maintain the volume of 400 cc. The proportion of the copper solution in the total volume was changed from 50 cc. to 20 cc. because the amount of copper formerly used seemed excessive. Preliminary experiment showed that if the components were mixed in the cold and then heated much less cupric oxide was produced. By varying the amount of alkaline tartrate a proportion of 30 cc. alkaline tartrate to 20 cc. of copper sulfate solution when heated at boiling for 15 minutes gave no precipitate of cupric oxide and less than 0.1 mg. of cuprous oxide. The solutions made up in accordance with the above concentration were boiled for varying lengths of time and the cuprous oxide was determined by the ferric alum method.

[1] Presented before the Division of Cellulose Chemistry at the 69th Meeting of the American Chemical Society, Baltimore, Md., April 6 to 10, 1925. Published in Industrial and Engineering Chemistry.

[2] Communication No. 231 from the Research Laboratory of the Eastman Kodak Company.

* Numbers in text refer to bibliography at end of article.

The results are shown in Figure 1 and Table I. This solution could be heated for 2 hours at 100° C. without any appreciable formation of cuprous oxide.

TABLE 1
AUTOREDUCTION
(Heating at boiling point)

Time of heating min.	Reduced copper mg.
10	0.084
15	0.084
20	0.072
30	0.099
40	0.084
60	0.10

Time and Temperature of Heating

The time of heating necessary to obtain the maximum reduction was investigated. This was first done at boiling temperature, but because of danger of superheating and because of the lapse of time between the start of heating and the boiling point, during which time reduction is taking place, experiments were run at 100 degrees C. At this temperature for an equal time of heating the results were lower. Determinations were then made at 75 degrees and 100 degrees C., and at the boiling point of the solution with varying lengths of time. The results (Figure 2 and Table 2) show that the maximum reduction is practically reached at 30 minutes. The curve falls off so abruptly below 30 minutes that it was considered advisable to use 45 minutes as the time of heating. Determinations made at 75 degrees, 85 degrees, 92.5 degrees, and 100 degrees C., and at the boiling point show that as the temperature increases the amount of cuprous oxide increases. The temperature—copper number curves were made for two materials, a paper and a pulp. As shown in Figure 3 and Table 3, the curves for these two materials are not parallel. This precludes the possibility of applying a corrective factor for errors in temperature. In view of this it was decided to recommend 100 degrees C. as the temperature for making the determination.

TABLE 2
CHANGE OF COPPER NUMBER WITH TIME OF HEATING

Time of heating min.	Temperature		
	Boiling point	100° C.	75° C.
5	1.36	1.11	0.107
10	1.54	1.333	
15	1.68	1.43	0.18
20	1.77		
30	1.82	1.52	0.24
40	1.85		
60	1.83	1.51	0.214
90	1.87	1.52	
120			0.214

Reversibility

The decrease in amount of cuprous oxide obtained as the temperature was lowered led to the belief that the cuprous oxide obtained at 100 degrees C. might be partially dissolved at a lower temperature. To ascertain this, determinations were made using Star Linen paper and rag pulp. At 100 degrees C. the average value for Star Linen paper was 1.52 and for rag pulp 4.73. At 75 degrees C. the average value for Star Linen paper was 0.24 and for rag pulp 2.70. Determinations on Star Linen paper and rag pulp were then made by heating at 100 degrees C. for 30 minutes, cooling to 75 degrees C., and allowing to stand for 2 hours

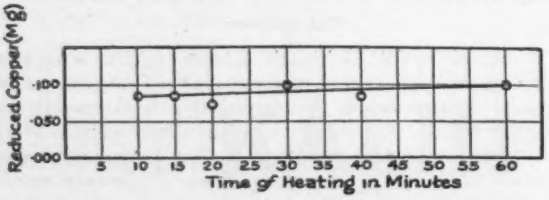

FIG. 1

at this temperature before filtering. The determination of cuprous oxide was then made. Star Linen paper gave an average value of 0.18 and the rag pulp 2.66. The time necessary for equilibrium to be reached was not investigated, but 2 hours appeared to have been ample. That the cuprous oxide dissolved in the solution as a cuprous complex was shown (using Parr's[11] method for determining cuprous copper) in the filtrate obtained when the Fehling solution was filtered from the cellulose. In the case of paper pulp there was a difference of 62 mg. between the weight of copper obtained at 100 degrees C. and that obtained by heating at 100 degrees C. and then allowing to stand for 2 hours at 75 degrees C. It was necessary to modify Parr's method by running a blank with fresh Fehling solution and subtracting the value obtained.

Precipitation of Cuprous Oxide by Heating Filtrates

When the filtrate from the rag pulp, which had been heated with Fehling solution at 100 degrees C. for 30 minutes and at 75

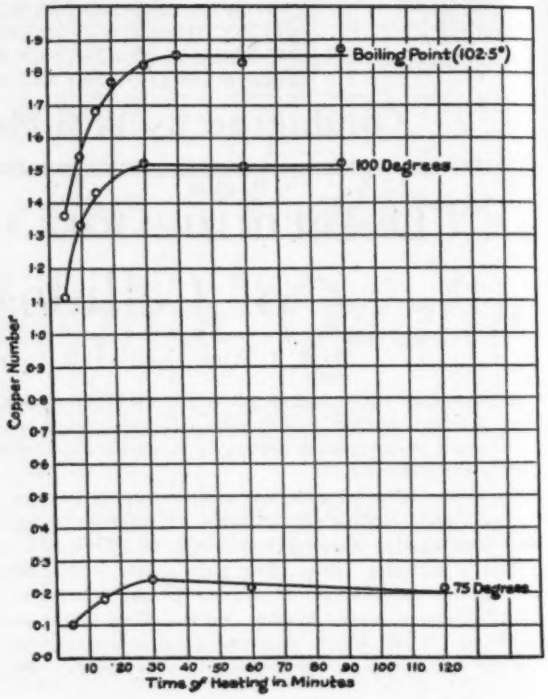

FIG. 2

degrees C. for 2 hours, was placed on a water bath for 45 minutes and heated, a precipitate of cuprous oxide was observed. The amount obtained in this way was 4.94 mg. Although far below the theoretical value, it seemed to indicate the precipitability of cuprous oxide from the filtrate with rise of temperature.

Re-reversibility

If, after bringing about reversal as described above, the solution containing the paper or pulp was again heated at 100 degrees C. for 2 to 3 hours, the value for the copper number increased. Star Linen paper treated in this way gave a copper number of 0.33, and rag pulp 3.52. The corresponding values for these materials at 75 degrees C. are 0.24 and 2.71. The increase in magnitude of the copper number indicates clearly a trend in the direction of the former value obtained for 100 degrees C.

Whether the cuprous oxide which dissolved by lowering the temperature from 100 degrees to 75 degrees C. could be reprecipitated quantitatively by prolonged heating has not been ascertained. However, it has been demonstrated, as described above, that the dissolved copper was in the cuprous condition.

Retention of Ferric Alum

In the determination of cuprous oxide by the ferric alum method, the iron ammonium sulfate is washed out of the material, with 100 cc. of 2 N sulfuric acid. That this amount affords adequate washing is shown by the fact that the value for the blank remained the same when the filter was washed with 200 cc. 2 N sulfuric acid. When Star Linen was used the following copper numbers were obtained:

3-gram sample; time of heating, 20 minutes at boiling point.

Sample	Volume 2N H_2SO_4 used — 100 cc.	200 cc.
I	1.71	1.68
II	1.67	...
III	1.71	1.72
IV	1.69	1.70

Weight of Sample

Using the Braidy method, Clibbens and Geake observed the following variation in copper number with weight of sample:

Modified cellulose preparation number	Copper number — 1 gram sample	2.5 grams sample
34	0.80	0.87
35	2.21	2.33
41	3.09	3.48
42	3.92	4.36

TABLE 3
CHANGE OF COPPER NUMBER WITH TEMPERATURE OF HEATING

Temperature ° C.	Heating for 30 minutes — Star Linen paper	Rag pulp
102.5	1.80	5.0
100	1.52	4.77
92	1.02	4.01
85	0.59+	3.41
75	0.24	2.70

Using the modified Fehling solution and maintaining all factors as nearly constant as possible, weights of sample Star Linen of 1, 2, 3, 4, and 6 grams and of oxidized cellulose of 0.375, 0.75 and 1.5 grams were taken for the determinations. The following table and Figure 4 (Table 4) show that the value of copper number in this procedure is not greatly affected by the weight of sample.

STAR LINEN PAPER
(Solution boiled for 20 minutes)

Weight of sample..	Copper Number — 1 gram	2 grams	3 grams	4 grams	6 grams
I	1.76	1.87	1.70	1.85	1.74
II	1.68	1.77	1.67	1.82	...
III	...	1.73	1.71	...	...
Average	1.72	1.79	1.69	1.83	1.74
Weight of reduced copper, grams	0.0172	0.0358	0.0509	0.0736	0.1046

OXIDIZED CELLULOSE [12]
(Time of heating, 15 minutes at boiling point)

Weight of sample, grams	1.5	0.75	0.375
Copper number	5.85	5.80	5.49
Weight of reduced copper, grams	0.0878	0.0435	0.0206

Back Oxidation of Cuprous Oxide

The back oxidation of cuprous oxide to cupric oxide was also

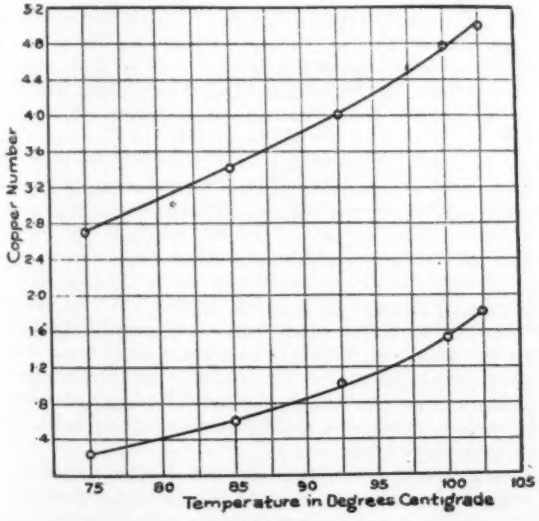

FIG. 3

investigated. It was found that the cuprous oxide after filtration may stand at room temperature in contact with air for more than 20 hours with negligible oxidation to cupric oxide.

Rag pulp was heated for 30 minutes at 100 degrees C. and the determination for copper number of cuprous oxide made immediately. The value for copper number so obtained was 4.77. When the cuprous oxide was allowed to stand on the filter for 15 hours after precipitation, the value of the copper number was 4.68, and a duplicate experiment in which 21 hours elapsed between the precipitation and determination of the cuprous oxide gave a copper number of 4.76.

Method

SOLUTIONS—(A) Copper sulphate crystals are washed to remove extraneous matter and dried; 137 grams of $CuSO_4.5H_2O$ are dissolved in distilled water and made up to 2 liters.

(B) 692 grams of potassium sodium tartrate, which have been recrystallized from warm water and dried at room temperature,

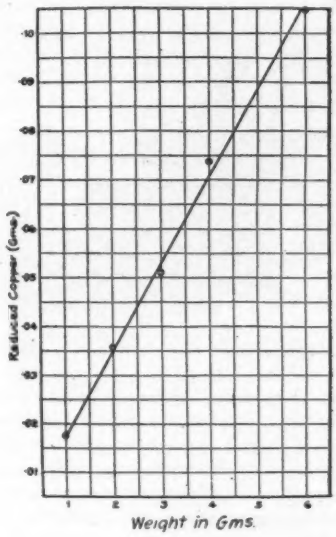

FIG. 4

are dissolved in approximately 1 liter of water. To this are added 200 grams of sodium hydroxide and the solution made up to 2 liters. The sodium hydroxide is prepared by making a saturated solution and allowing it to settle for 10 days. A sample is then pipetted out and titrated with standard hydrochloric acid. The volume of the solution containing 200 grams of sodium hydroxide is then calculated and used.

Ferric Ammonium Alum Solution. One hundred grams of ferric ammonium alum, $(NH_4)_2\ SO_4.Fe_2(SO_4)_3.24H_2O$, are placed in 700 cc. of water and 140 cc. of concentrated sulphuric acid added. When the solution is clear it is made up to 1 liter.

PREPARATION OF SAMPLE—When paper is used it is cut into pieces 2 to 5 mm. square. Linters require no treatment. Raw cotton, sliver, and standard cellulose made therefrom are first pulled apart and then cut finely.

For pulp the following procedure has been found useful:

After weighing, the pulp is placed in a 150-cc., glass-stoppered, wide-mouthed bottle, about 50 or 75 glass beads are dropped in, and 75 cc. of distilled water added. The bottle is then shaken vigorously for 10 to 15 minutes. The contents are washed with 25 cc. of water, into the balloon flask in which the determination is made. Shaking with glass beads reduces the pulp to a finely divided, "free" state which facilitates the determination.

Note—A sample of rag pulp from the beater was dried to constant weight at 40 degrees. One sample was treated wit hthe glass beads, the other torn into small pieces and the copper number determined on each. These gave the following results: 2.81 and 2.55, respectively.

PROCEDURE—Usually a 3-gram sample is used. However, for substances having a high copper number, or when the supply is limited, smaller amounts may be satisfactorily employed. The sample is placed in a 1.5-liter balloon flask equipped with a short reflux condenser and stirrer. Into the top of the reflux condenser is in-

sorted a small, short-stemmed funnel, through which passes the shaft of the stirrer. The flask is then placed in a bath at 100 degrees C.

TABLE 4
INCREASE IN WEIGHT OF CUPROUS OXIDE PRECIPITATED WITH INCREASE IN WEIGHT OF SAMPLE

(Heating 20 minutes at boiling point)

(1 Sample)					
Weight of sample, grams	1	2	3	4	6
Weight reduced copper, grams	0.0172	0.0358	0.0509	0.0736	0.1046

In another 1.5-liter balloon flask are placed 350 cc. of water when the copper number of paper, linter, raw cotton, sliver, or standard cellulose is being determined; for pulp 250 cc. of water are used. In all cases 20 cc. of copper sulfate solution and 30 cc. of alkaline tartrate are added to the sample in the other flask. This addition may be made in from 20 to 30 seconds.

The sample is heated with the solution on the water bath for 45 minutes, with stirring sufficiently rapid to keep the contents in gentle motion. The flask is then removed and the solution immediately filtered on a Buchner funnel through two sheets of Whatman No. 5 filter paper. (In place of filter paper, asbestos prepared for use in Gooch crucibles was tried. The difference in the blank obtained was very small.) The material on the filter is washed, first with 1 liter of cold water and then with 750 cc. of boiling water.

The Buchner funnel is then transferred to a 250-cc. filter flask. The contents are treated with 25 cc. of ferric alum solution, in the case of standard celulose. Materials having a higher copper number, or fine texture, may require more ferric alum to remove the cuprous oxide. In such cases it is added in 25-cc. portions and a blank determined to correct for the additional ferric alum. The ferric alum retained by the material is washed out with 100 cc. 2 N sulfuric acid, applied in two 50-cc. portions. The Buchner funnel is then removed and the contents of the filter flask titrated to a light pink with 0.04 N potassium permanagnate.

Calculations

(1 sample)

$$\frac{\text{Cc. } KMnO_4 \text{ used} \times 0.00254 \times F\ 100}{\text{Weight of sample}} = \text{Copper number}$$

1 cc. 0.04 N $KMnO_4$ = 0.00254 gram copper
F = Factor of $KMnO_4$

COPPER NUMBERS OF VARIOUS CELLULOSIC MATERIALS

Standard cellulose from:	I	II	III	Average
(a) Arizona Egyptian sliver	0.0057	0.0040		0.0048
(b) Clarksdale, Miss.	0.0065	0.0041	0.0025	0.0047
(c) American peeler	0.0032	0.0057	0.0047	0.0045
(d) Peruvian sliver	0.0041	0.0049	0.0025	0.0038
(e) Sulphite pulp	0.049	0.053		0.051
(f) Linter A	0.0041	0.0057		0.0049
American peeler, extracted alcohol and ether. No chemical treatment	0.0074	0.0082		0.0078
Sulphite pulp, after treatment with 17.5 per cent alkali	0.049	0.053		0.051
Raw linters A	0.0082	0.0113	0.0098	0.0097
Raw linters B	0.058	0.053		0.055
Raw linters C	0.012	0.011		0.011
Bleached linters C	0.0202	0.0197	0.0189	0.0196
Material precipitated from cuprammonium solution I	0.041	0.049		0.045
Raw linters D	0.020	0.018		0.019
Raw linters E	0.0098	0.0091	0.0082	0.0090
Material precipitated from cuprammonium B	0.017			
Paper M	0.029	0.033		0.031
Bleached linters C	0.031	0.027		0.029
Hydrocellulose A	3.02	2.97	2.98	2.99
Material precipitated from cuprammonium C	17.3	17.4		17.35
Star Linen paper	1.56	1.45	1.56	1.52
Rag pulp	4.77	4.76	4.68	4.73

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Casein and Its Industrial Applications

CASEIN AND ITS INDUSTRIAL APPLICATIONS—American Chemical Society Monograph Series published by Chemical Catalogue Co., New York, 295 pages, $5.

This is a new book that will be of particular interest to those connected with mills making coated paper as in addition to being its editor, Edwin Sutermeister, S. D. Warren Company, Cumberland Mills, Me., is the author of several of the chapters, including that on Casein in Paper Making. The subheads of this chapter are: Nature of Coated Paper; Adhesives Used; Early Attempts to Use Casein; Coating Operations; Preparing Casein Solutions; Addition of Alkalies; Typical Mill Procedures; Preparing the Coating Mixture; Mineral Matters Used; Coating the Paper; Foaming of Casein Mixture; Defects in Casein; Preservatives; Waterproofing Agents; Other Uses of Casein in Paper; Kinds of Casein Used; References.

In the chapter, Testing and Analysis of Casein, also by Sutermeister, he gives the test he has found useful for casein intended for paper coating.

"Any test to show the strength of casein should approximate the conditions under which it is actually used. Such a test, which has proved very satisfactory to the makers of coated papers, is as follows: One hundred grams of clay, previously dried at 100 degrees C., are weighed into a heavy walled, porcelain cup and soaked up with 70 cc. of water. A casein solution is prepared with any desired solvent and is so adjusted, by adding water if necessary, that each 5 grams of the solution contains just 1 gram of the casein to be tested. The clay and water are mixed until free from lumps, which may be done conveniently with a copper spatula, bent nearly at right angles on the end to form a foot with which to break up any masses of clay that are not easily reduced. The cup and its contents, including the spatula, are balanced on the scales and 30 grams of the casein solution are weighed in and stirred until a homogeneous mixture is obtained. A little of this coating mixture is transferred to a small piece of paper and spread to a thin, uniform layer, either by means of a small flat brush or by means of a scraper. The sheet is marked '6 grams of casein' and is then laid aside to dry. The cup is replaced on the scales, 5 grams more of the casein solution added, and another sheet spread as before and marked '7 grams.' This is repeated until casein solution equivalent to 12 grams of casein has been used. A scraper for spreading the coating mixture may be made from a piece of saw blade about 4 inches wide and 5 inches long, bent into a rather flat arc and ground smooth on the convex side at both ends.

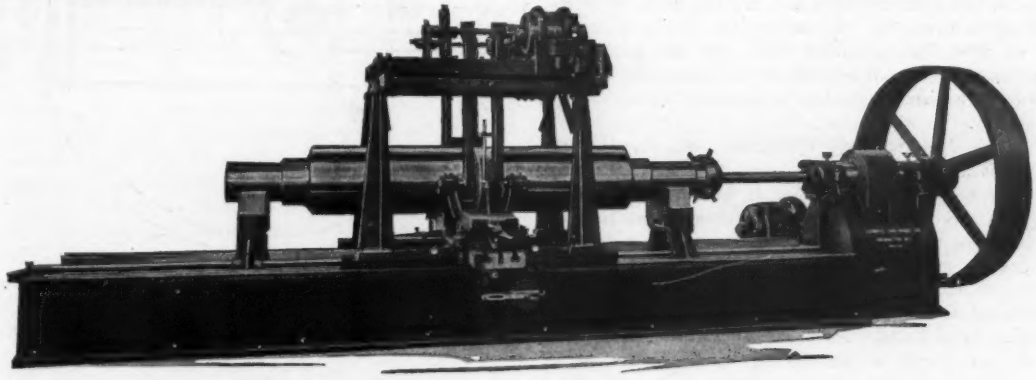
"After the sheets of coated paper are thoroughly dry each one is held up to the light and several small areas having the desired thickness of coating are marked out. Short pieces of high-grade sealing wax are then heated at one end until nearly melted and one applied to each of the marked areas. When they have cooled a finger is placed on either side of the wax to hold the paper firmly, and the wax is removed by a steady, vertical pull. If enough casein is present the surface of the wax will be covered with fibers to the very edge, if too little was used the coating comes away from the paper without pulling off any fiber, while there is usually an intermediate case in which the center of the wax shows fiber and the edges clay only; this would be considered just on the line between weak and strong.

"This is an excellent comparative test but if reliable results are to be obtained the same clay and paper must be used and places in which the coating is of the same thickness must be selected for applying the wax. As the influence of all these factors is very appreciable the results obtained in different laboratories would not be comparable unless the same materials could be distributed to all, and the operators trained to produce coatings of a standard thickness."

The other chapters, which are by experts in their line, cover the chemistry of casein and its manufacture, the preparation of casein paints, plastics, and glues as well as its use in medicine and in foods.

Calender Rolls*

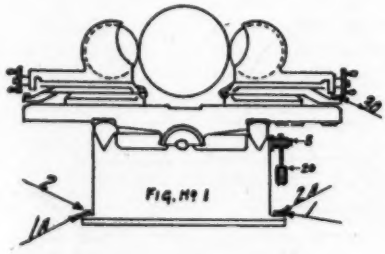
The manufacture of chilled iron rolls for the paper mills is a highly specialized and difficult foundry and machine shop process. The rolls in the rough are iron castings, the working parts of the molds for which are iron instead of sand as in the ordinary casting. This sounded simple enough, but it involves some very difficult problems which have taken many years of experience with many discouragements to solve, and even after these years and with knowledge gained by so much expenditure of time and money the casting losses are high as compared with the more simple foundry products.

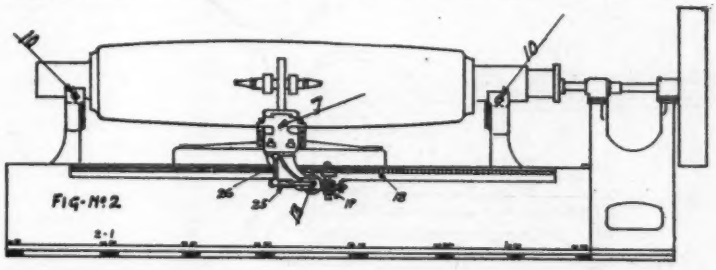


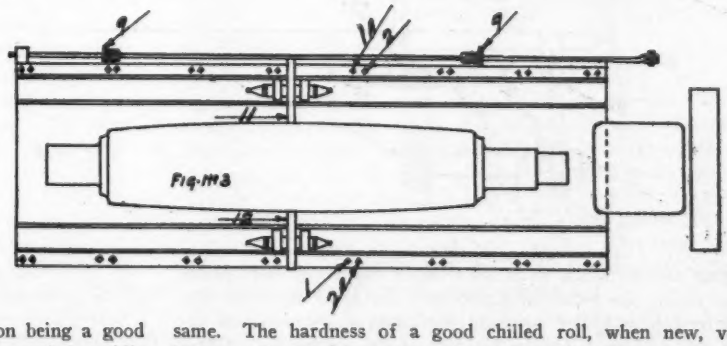
Motor Driven Roll Grinding Machine With Automatic Crowning Device

We are frequently asked if we cannot rechill or reharden old rolls. This, of course, cannot be done. The chilling is accomplished in the process of casting from the molten metal. As mentioned above the part of the mold forming the face of the roll is made of iron instead of sand. Iron being a good conductor of heat that portion of the casting is cooled rapidly or chilled. This changes the nature of the iron by fixing the carbon in it as combined carbon rendering it extremely hard. The depth and hardness of the chilled portion depends on the chemical analysis of the iron used in the mixture as well as on a number of conditions surrounding the process of melting. The chilled portion of a roll is crystalline and brittle and has very little strength. It is, therefore, necessary to have a sufficient core of grey or softer iron in the center of the roll to prevent its breaking under the pressure it will have to sustain in service. The manufacturer is always limited on the one hand to having a chill deep enough to give good wear and on the other to having one not so deep that it will impair the strength.

The defects of too light or too heavy chill as well as any other defects in the face of the roll show up when it is being machined in the facing lathe. The ease or difficulty with which it is cut in this part of the process is also the most reliable test of the hardness of the chill. However, each roll, when completed, is tested for hardness with a scleroscope and record kept of sink head, which contains the dirt or dross; turning temporary bearings for the facing lathes; turning the faces; finishing and same. The hardness of a good chilled roll, when new, varies between 68 and 72 on the scleroscope scale, the average being about 70. This with use will increase materially, running as much as ten points higher after some years of service.







The machining is all done in special machines, built for the purpose and consists in cutting off the upper end of the neck or

* Lobdell Car Wheel Company, Wilmington, Del.

grinding the necks and finally grinding the faces. The turning of the necks is done in lathes very similar to those for any heavy work, but the faces, being so hard, are turned in special machines with special tools and at very slow speeds. To perform this part of the work successfully, requires long training and men of patience and intelligence.

Roll Grinding

The final finishing of the faces is done by grinding in special single purpose machines. The regrinding or trueing up of worn rolls is done in the same machines and in exactly the same way as the finishing of new ones. A machine for this purpose must be capable of producing cylindrical rolls with an accuracy to within one-fourth of one thousandth of an inch, and must be equipped with mechanism to produce a crowning on a roll with the same accuracy.

In order to produce perfectly cylindrical rolls, even if the ways of the machine were not absolutely accurate, J. Morton Poole, many years ago invented what is known as the Poole roll grinder. In this machine two grinding wheels, one on each side of the revolving roll were mounted on a movable or swinging saddle; this saddle being suspended, pendulum like, on the carriage was free to move with very slight pressure in a direction either way normal to the axis of the roll. The idea being that with wheels at a fixed distance apart, a roll passing between them from end to end would be reduced to equal diameter at all points along its face, provided the wheels were not guided rigidly out of a straight line course, which they would not be if they were free to swing independent of the guides. The pendulum saddle, of course, had to be made tight until the rolls were trued up circumferentially.

Theoretically, grinders built on this principle are all right, but practically there are many difficulties in the way of obtaining the best results in roll grinding with such an arrangement. The greatest of these difficulties is the lack of rigidity in the swinging saddle, which tends to produce chattering and ridging of the rolls. As noted it is necessary to grind the rolls true circumferentially before applying the swinging principle of the saddle and of course during this part of the operation the shape of the roll will be affected by the truth of the ways. With no provision for keeping these in perfect alignment, the inaccuracy in diameters may be considerable by the time the rolls are trued up and the process of straightening will take up more time. Another serious objection to the swinging saddle is in the grinding of soft rolls of rubber, etc. On these rolls resistance to the cutting action of the grinding wheels is so light that the pendulum does not function, making it practically impossible to grind rubber rolls with this arrangement in use.

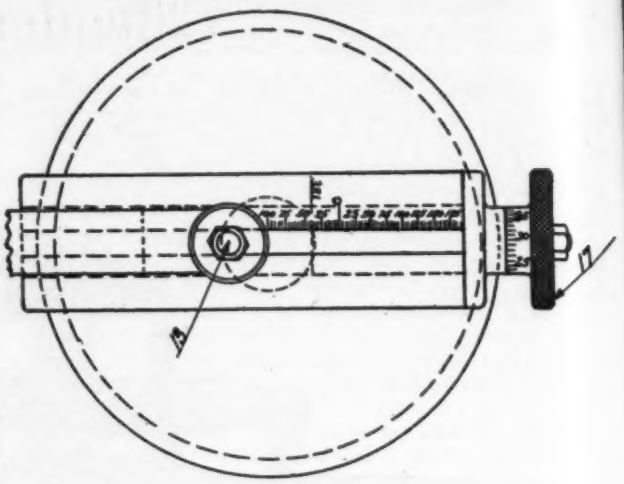


Fig. No 4.

Crowning the Rolls

This principle at best is only applicable to the grinding of straight rolls. Probably all will agree that the most important roll in a stack of calenders is the bottom roll, which must be ground crowning and that it is more difficult to get a crowned roll, either calender, press or other roll correct than it is to get a straight roll true. All attempts at an automatic crowning device on a roll grinder using the Poole principle of a swinging saddle have been by using some kind of former or guide on which a shoe travels, imparting the shape produced by this former to the face of the roll, thus depending on the accuracy of the surface of the former for the accuracy of the face of the roll. It will readily be conceded that it is easier to true up and maintain straight ways or guides than it can possibly be to maintain a true curve of very large radius. Consequently the theory of the necessity of being independent of the guides of the machine bed in order to produce accurate rolls is inconsistent.

Obviously then the way to produce absolutely accurate rolls

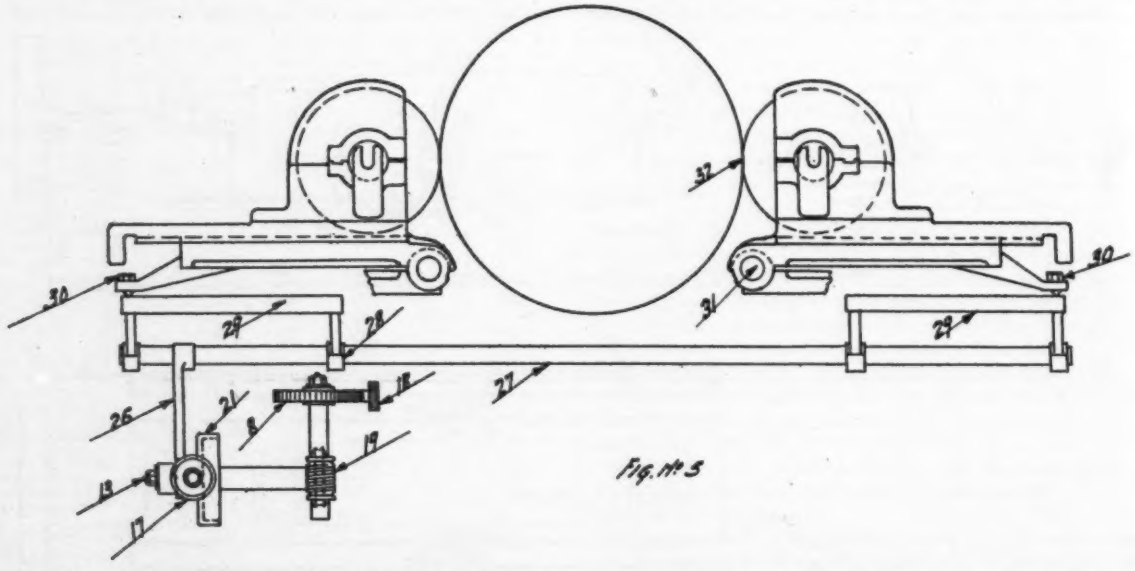


Fig. No 5

is to have absolutely accurate ways upon which the carriage of the grinder travels and to have sure and reliable means of maintaining the accuracy of such ways, regardless of wear or of the settling or alteration of the foundation; and having with this a mechanism which will develop a true(mathematically correct) crown without the inaccuracies which must of necessity develop in any former.

This has been accomplished in the Lobdell roll grinder. By a system of screws and bolts the bed of this machine is brought to absolute parallelism. This is fully explained in the instructions for setting up and operating the machine. By the same system any change in parallelism, brought about by wear or by settling or alteration in the foundation is immediately corrected. So efficient has this method proven, that we have in our own shops a grinder bed that has been kept in alignment for over thirty years without re-planing or scraping and is now capable of producing absolutely accurate work.

The crowning is accomplished by means of the mechanism shown in Figures 1 to 9, by diagrams the principles upon which it operates. On the side of the bed of the machine is fastened a rack, (18). As the carriage is moved back and forward along the ways by the feed screw, this rack revolves a gear wheel, (8) the shaft of which carries a worm, (19) and this in turn revolves the worm wheel, (20) and the crank disk, (21) through part of a circle. The crank disk (21) has a crank pin, (22) which is adjustable as to its distance from the center of the disk. The adjustment is made by means of a screw, (23) with a knurled handle, (17) the slide and hub of this handle being graduated to show thousandths of an inch. The crank is set so that it will be in a horizontal position when the grinding wheels are at the center of the face of the roll, consequently as the carriage travels in either direction from this central position, the crank pin will be moved through the arc of a circle, whose length will be proportional to the face of the roll, and the link, (25) will be moved in the direction of its length, an amount practically equal to the versed sine of this arc. This movement is transmitted through the lever, (26) to the shaft, (27) extending clear across the carriage. This shaft, with the lever, (26) and its knife edge levers, (28) forms a bell crank lever whose arms are in the proportion of 5 to 1. On the knife edge levers rest the parallel bars, (29) which as the lever, (26) moves horizontally, move vertically. On these parallel bars in turn rest the screws, (30), which form the longer end of the bell crank lever (30), (31), (32) formed by the slide rests and the grinding wheels and fulcrumed at (31). The proportion of the arms of this lever is 2 to 1, consequently the horizontal movement of the link, (25), is transmitted at the grinding contact of the wheels directly in and out toward the face of the roll, reduced ten times. This horizontal movement, we have seen is equal to the versed sine of the arc through which the crank pin travels and this arc is directly proportional to the face of the roll. As the rack and pinion have regular pitches, it is evident that for each equal portion of the face traversed the proportionate part of the arc will be equal, but referring to Figures eight and nine it will be seen that the versed sines of these arcs, B1, B2, etc., do not increase in the same proportions; the increments being greater as the wheels approach the ends of the roll and the crank pin approaches the ends of its arc, consequently the shape transmitted to the face of the roll will be a true curve; in fact the arc of a circle with almost infinite radius. It will also be evident that by increasing or decreasing the radius of the crank pin the versed sine of the arc will be increased or decreased. It is, therefore, but a mathematical problem to calculate the radius which will produce a given crown for a given face roll. This is what has been done in making the table which gives the adjustments for the radius of the crank pin. One of these tables is furnished with each machine.

The rack and gearing which operate the crank are proportioned so that in traversing 160 inches on the face of a roll the crank pin will travel through an arc of 45 degrees each way from the center.

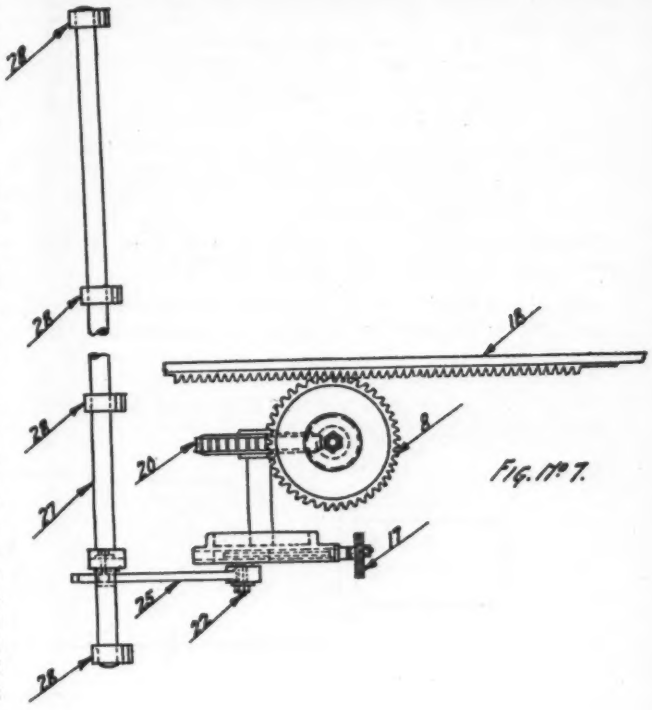


FIG. N° 7.

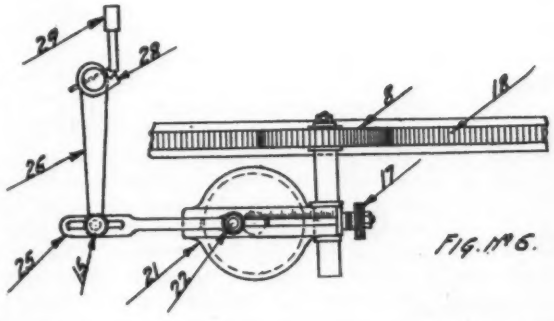


FIG. N° 6.

Measuring the Crown

In measuring the crown of rolls it has become almost universal practice to designate this as the difference in thousandths of an inch between the diameter of the roll at the center and the diameter at the ends. For obvious reasons it would be less accurate to measure this difference at the extreme end than at a short distance in. Therefore, we take our measurements at a point two inches from each end and a roll having 0.005 inch crown therefore, is 0.005 inch smaller in diameter at 2 inches from each end than it is in the center of the roll.

The formula by which the radius of the crank is determined is as follows:

Although the reduction in leverage from the crank pin to the face of the roll is 10 to 1, the constant 5 is used as the leverage of 2 to 1 in the slide rests compensates for the radius instead of the diameter of the roll.

As noted, the angle through which the crank pins travel for

a face of 160 inches is 45 degrees, therefore, 160 and 45 degrees are constants.

$$a = \frac{f}{160} \times 45°$$

VS (versed sine) = 1 — Cos of a

$$R = \frac{1}{VS} \times 5 \times C$$

in which (See Figure 10)
f = face of roll—4"
a = ½ of angle through which crank pin travels
R = radius of crank
C = crown of roll in inches

Example:—What will be the radius at which to set the crank pin to produce .005 crown on a roll 76 inch face?

$f = 76 - 4 = 72"$

$$a = \frac{72}{160} \times 45° = 20° 15'$$

From table of cosines. Cos of angle 20° 15′ = .93819
Ver Sin = 1 — .93819 = .06181

$$R = \frac{1}{.06181} \times 5 \times .005 = .404$$ which is the number on the micrometer scale to which the pin should be set.

In this way a table has been prepared (Table 1) a copy of which is furnished with the machine. This gives the radius to which the crank pin should be set for crowns up to 0.012. On examination it will be seen that the figure given for 0.001 inch crown for any given face roll is a constant for the other figures for the same faced roll, consequently, if it is desired to obtain the figure for crowns in excess of 0.012, all that is necessary is to multiply the figure in the 0.001 inch column by the number of thousandths desired.

This feature of being able to set the machine so as to produce a predetermined crown, eliminates guess work and the cut and try method as in other devices; the principle upon which they work making it impossible to calculate the setting required. It is also obvious that the movement is mathematically correct and as the movement of the small crank pin is so slight, the possibility of error is entirely eliminated; whereas with a forming device the truth of the roll's surface is directly affected by any wear or defect in the former. As the machine has provision for keeping the ways in such alignment as to produce absolutely

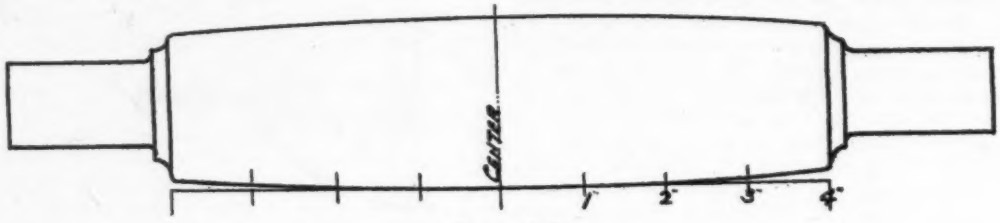


FIG. Nº 8

FIG. Nº 9.

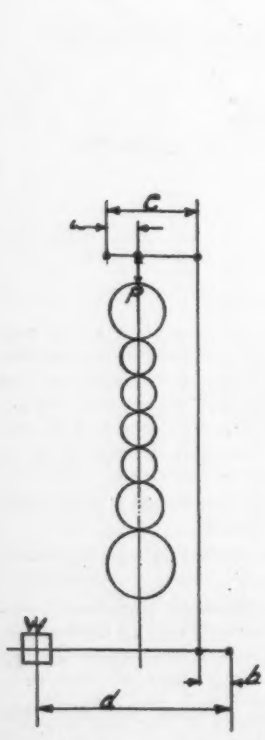


FIG. Nº 12

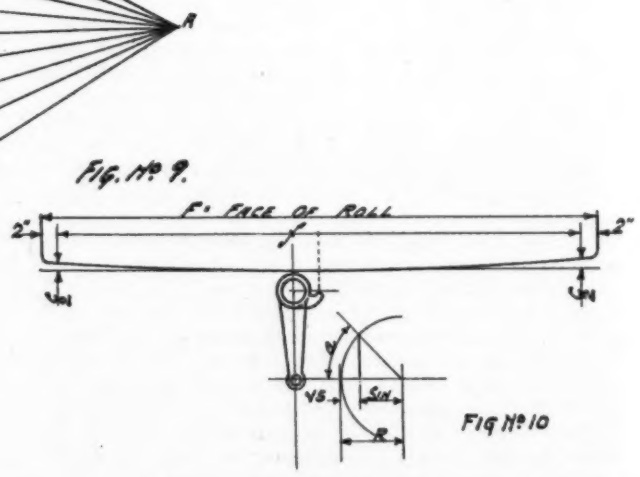


FIG Nº 10

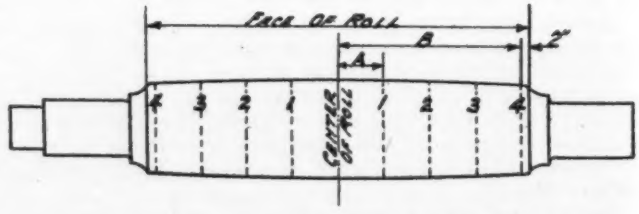


FIG. Nº 11.

accurate straight rolls, the same conditions prevail in the crown grinding and absolutely correct results are obtained.

The measuring of a straight roll is a comparatively simple matter if a good micrometer roll caliper (Fig. 13) is had, but the measuring of a crowned roll, although if anything more important, is a more difficult proposition. It is first necessary to know what the intermediate measurements should be with a certain crown at the ends.

TABLE 1

Amount of the crown.

Face of roll in inches	Crown in thousands of an inch. 1	2	3	4	5	6	7	8	9	10	11	12
24	1.0373	2.075	3.112									
26	.8576	1.715	2.573	3.430								
28	.732	1.464	2.196	2.928	3.66							
30	.6143	1.229	1.843	2.457	3.072	3.686						
32	.5302	1.060	1.591	2.121	2.651	3.181	3.711					
34	.4621	.924	1.386	1.848	2.311	2.773	3.235	3.697				
36	.4061	.812	1.218	1.624	2.031	2.437	2.843	3.249	3.655			
38	.3599	.720	1.080	1.440	1.800	2.160	2.519	2.879	3.239	3.599	3.959	
40	.3209	.642	.963	1.284	1.605	1.925	2.246	2.567	2.888	3.209	3.530	3.851
42	.2881	.576	.864	1.152	1.441	1.729	2.017	2.305	2.593	2.881	3.169	3.457
44	.2602	.520	.781	1.041	1.301	1.561	1.821	2.082	2.342	2.602	2.862	3.122
46	.2359	.472	.708	.944	1.180	1.415	1.651	1.877	2.123	2.359	2.595	2.831
48	.2152	.430	.646	.861	1.076	1.291	1.506	1.722	1.937	2.152	2.367	2.582
50	.1969	.394	.591	.788	.985	1.181	1.378	1.575	1.772	1.969	2.166	2.363
52	.1806	.361	.542	.722	.903	1.084	1.264	1.445	1.625	1.806	1.987	2.167
54	.1664	.333	.499	.666	.832	.998	1.165	1.331	1.498	1.664	1.830	1.997
56	.1543	.309	.463	.617	.772	.926	1.080	1.234	1.389	1.543	1.697	1.852
58	.1431	.286	.429	.572	.716	.859	1.002	1.145	1.288	1.431	1.574	1.717
60	.1331	.266	.399	.532	.666	.799	.932	1.065	1.198	1.131	1.464	1.597
62	.1241	.248	.372	.496	.621	.745	.869	.993	1.117	1.241	1.365	1.489
64	.116	.232	.348	.464	.580	.696	.812	.928	1.044	1.160	1.276	1.392
66	.1088	.218	.326	.435	.544	.653	.762	.870	.979	1.088	1.197	1.306
68	.1021	.204	.306	.408	.511	.613	.715	.817	.919	1.021	1.123	1.225
70	.0961	.192	.288	.384	.481	.577	.673	.769	.865	.961	1.057	1.153
72	.0905	.181	.272	.362	.453	.543	.634	.724	.815	.905	.996	1.086
74	.0855	.171	.257	.342	.428	.513	.599	.684	.770	.855	.941	1.026
76	.0809	.162	.243	.324	.405	.485	.566	.647	.728	.809	.890	.971
78	.0766	.153	.230	.306	.383	.460	.536	.613	.689	.766	.843	.919
80	.0727	.145	.219	.291	.364	.436	.509	.582	.654	.727	.800	.872
82	.069	.138	.207	.276	.345	.414	.483	.552	.621	.690	.760	.828
84	.0656	.131	.197	.262	.328	.394	.459	.525	.590	.656	.722	.787
86	.0625	.125	.188	.250	.313	.375	.438	.500	.563	.625	.688	.750
88	.0597	.119	.179	.239	.299	.358	.418	.478	.537	.597	.657	.716
90	.0569	.114	.171	.228	.285	.341	.398	.455	.512	.569	.626	.683
92	.0544	.109	.163	.218	.272	.326	.381	.435	.490	.544	.598	.653
94	.052	.104	.156	.208	.260	.312	.364	.416	.468	.520	.572	.624
96	.0498	.100	.149	.199	.249	.299	.349	.398	.448	.498	.548	.598
98	.0478	.096	.143	.191	.239	.287	.335	.382	.430	.478	.526	.574
100	.0459	.092	.138	.184	.230	.275	.321	.367	.413	.459	.505	.551
102	.044	.088	.132	.176	.220	.264	.308	.352	.396	.440	.484	.528
104	.0423	0.85	.127	.169	.212	.254	.296	.338	.381	.423	.465	.508
106	.0408	.082	.122	.163	.204	.245	.286	.326	.367	.408	.449	.490
108	.9392	.078	.118	.157	.196	.235	.274	.314	.353	.392	.431	.470
110	.0377	.075	.113	.151	.189	.226	.264	.302	.339	.377	.415	.452
112	.0364	.073	.109	.146	.182	.218	.255	.291	.328	.364	.400	.437
114	.0351	.070	.105	.140	.176	.211	.246	.281	.316	.351	.386	.421
116	.0339	.068	.102	.136	.170	.203	.237	.271	.305	.339	.373	.407
118	.0327	.065	.098	.131	.164	.196	.229	.262	.294	.327	.360	.392
120	.0317	.063	.095	.127	.159	.190	.222	.254	.285	.317	.349	.380
122	.0306	.061	.092	.122	.153	.184	.214	.245	.275	.306	.337	.367
124	.0296	.059	.089	.118	.148	.178	.207	.237	.266	.296	.326	.355
126	.0287	.057	.086	.115	.144	.172	.201	.230	.258	.287	.316	.344
128	.0278	.056	.083	.111	.139	.167	.195	.222	.250	.278	.306	.334
130	.0269	.054	.081	.108	.135	.161	.188	.215	.242	.269	.296	.323
132	.0261	.052	.078	.104	.131	.157	.183	.209	.235	.261	.287	.313
134	.0254	.051	.076	.102	.127	.152	.178	.203	.229	.254	.279	.305
136	.0246	.049	.074	.098	.123	.148	.172	.197	.221	.246	.271	.295
138	.0239	.048	.072	.096	.120	.143	.167	.191	.215	.239	.263	.287
140	.0232	.046	.070	.093	.116	.139	.162	.186	.209	.232	.255	.278
142	.0226	.045	.068	.090	.113	.136	.158	.181	.203	.226	.249	.271
144	.022	.044	.066	.088	.110	.132	.154	.176	.198	.220	.242	.264
146	.0214	.043	.064	.086	.107	.128	.150	.171	.193	.214	.235	.257
148	.0208	.042	.062	.083	.104	.125	.146	.166	.187	.208	.229	.250
150	.0203	.041	.061	.081	.102	.122	.142	.162	.183	.203	.223	.244
152	.0198	.040	.059	.079	.100	.119	.139	.158	.178	.198	.218	.238
154	.0193	.039	.058	.077	.097	.116	.135	.154	.174	.193	.212	.232
156	.0188	.038	.056	.075	.094	.113	.132	.150	.169	.188	.207	.226
158	.0183	.037	.055	.073	.092	.110	.128	.146	.165	.183	.201	.220
160	.0179	.036	.054	.072	.090	.107	.125	.143	.161	.179	.197	.215
162	.0175	.035	.053	.070	.086	.105	.123	.140	.158	.175	.193	.210
164	.017	.034	.051	.068	.085	.102	.119	.136	.153	.170	.187	.204
166	.0166	.033	.049	.066	.083	.099	.116	.132	.149	.166	.182	.199
168	.0162	.032	.048	.064	.081	.097	.113	.129	.145	.162	.178	.194
170	.0159	.031	.047	.063	.079	.095	.111	.127	.143	.159	.174	.190
172	.0155	.031	.046	.062	.077	.093	.108	.124	.139	.155	.170	.186
174	.0152	.030	.045	.060	.076	.091	.106	.121	.136	.152	.167	.182
176	.0149	.029	.044	.059	.074	.089	.104	.119	.134	.149	.163	.178
178	.0145	.029	.043	.058	.072	.087	.101	.116	.130	.145	.159	.174
180	.0142	.028	.042	.056	.071	.085	.099	.113	.127	.142	.156	.170
182	.0140	.028	.042	.056	.070	.084	.098	.112	.126	.140	.154	.168
184	.0136	.027	.040	.054	.068	.081	.095	.108	.122	.136	.149	.163
186	.0134	.026	.040	.053	.067	.080	.094	.107	.120	.134	.147	.162
188	.0131	.026	.039	.052	.065	.078	.091	.104	.117	.131	.144	.157
190	.0128	.025	.038	.051	.064	.076	.089	.102	.115	.128	.140	.153
192	.0126	.025	.037	.050	.063	.075	.088	.100	.113	.126	.138	.151
194	.0123	.024	.036	.049	.061	.073	.086	.098	.110	.123	.135	.147
196	.0121	.024	.036	.048	.060	.072	.084	.096	.108	.121	.133	.145
198	.0119	.023	.035	.047	.059	.071	.083	.095	.107	.119	.130	.142
200	.0117	.023	.035	.046	.058	.070	.081	.093	.105	.117	.128	.140
202	.0114	.022	.034	.045	.057	.068	.079	.091	.102	.114	.125	.136
204	.0112	.022	.033	.044	.056	.067	.078	.089	.100	.112	.123	.134
206	.0110	.022	.033	.044	.055	.066	.077	.088	.099	.110	.121	.132
208	.0108	.021	.032	.043	.054	.064	.075	.086	.098	.108	.118	.129
210	.0106	.021	.031	.042	.053	.063	.074	.084	.095	.106	.116	.127
212	.0104	.020	.031	.041	.052	.062	.072	.083	.093	.104	.114	.124

For ascertaining these measurements the following formula will be found correct:

X = crown at any given point as 1
Y = total crown at 4
B = distance from center of roll to 4
A = distance from center of roll to 1

$$X = Y\left(\frac{A}{B}\right)^2$$

Example:—Suppose a roll of 100 inch face has a total crown of 0.008 what would be the crown at a point 1, which is 12 inches from the center of the roll:

$$\text{The distance B would be } \frac{100}{2} - 2 = 48''$$

$$\text{Then } X = .008\left(\frac{12}{48}\right)^2 = .008\left(\frac{1}{4}\right)^2 = .008 \times \frac{1}{16} = .0005$$

For convenience we divide the distance between the center and the end measurement into four equal parts. Thus the fractions $\frac{A}{B} = \frac{1}{4}$, ½ and ¾ respectively and their squares 1/16, ¼ and 9/16. This makes a very convenient rule. That is the crown

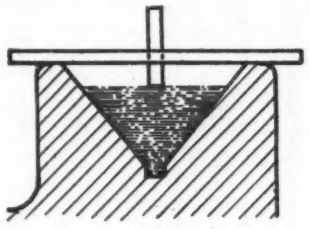


FIG. 13.

at ¼ the distance from the center will equal 1/16 of that at the end, at ½ the distance it will be ¼ that at the end and at ¾ the distance it will be 9/16 of that at the end.

It is well to check up at these points before removing the roll from the grinder, for if these intermediate measurements do not bear these proportions to the crown at the end, the shape of the roll will not be correct and will not show an even joint.

Amount of Crown Required

The amount of crown to be given any particular roll is very difficult to calculate. Especially is this true as to press rolls, the crown of which will have to be made to suit the density of the rubber, the method in which the core is made, the service quality of paper to be produced and various other conditions. These rolls are usually crowned to suit the ideas of the individual paper maker, which are based on his experience with the grade of paper being produced and the requirements of his particular machine.

On calender rolls, however, while it would be very difficult to determine by calculation the amount of crown, it is possible from records of what has been done to predetermine the amount necessary to be given the bottom and top rolls in order to compensate for the deflection in the bottom roll and for the pressure to be applied to the journals of the top roll.

It is to be regretted that there are no standards to be followed in designing or building of paper machines. Nearly every machine is an individual, differing in some respects from any other machine. Consequently, there are rolls of all diameters, lengths of face, and size of journals, and in calenders any number of rolls from two to thirteen, carrying various pressures from their weights and levers, from nothing up to several thousand pounds. All these variations, of course, affect the deflection of the bottom roll.

Our practice in building new calenders or in regrinding old ones, unless otherwise specified, is to grind the top and bottom rolls with sufficient crown, so that all joints will show perfect when set up with all the rolls resting on the bottom roll and with the weight which the stack is built to carry on the journals of

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TABLE 2

No. of rolls in stack	Length of face, in.	Dia. of bottom roll, in.	Diameters of intermediate rolls, in.	Dia. of top roll, in.	Pressure on each journal of top roll, lb.	Crown on bottom roll, in.	Crown on top roll, in.
5	26	7	5 5 5	6	275	.001	
5	30	8	6 6 6	7	500	.001	
5	40	14	7 7 7	12	1000	.0025	
5	46	16	10 10 10	12	2250	.0015	
5	48	14	12 12 12	14	3600	.0025	
2	50	12		12	1000	.0025	
2	52	8		8	0	.003	
3	54	14	12	14	1000	.0025	
7	54	16	12 10 10 10 12	14	1000	.0025	
5	56	12	6 6 6	12	0	.0025	
9	56	14	12 12 12 10 10 10 10	12	2400	.003	
5	62	16	12 10 10	14	1200	.003	
5	62	18	12 12 12	15	4500	.003	
7	62	16	12 10 10 10 10	14	1200	.003	
9	62	12	7 7 7 7 7 7 7	12	2700	.006	.0015
10	63	16	14 10 10 10 10 10 10 10	14	3600	.005	.001
7	66	16	14 14 10 10 10	14	5000	.003	
9	66	18	12 9 9 9 9 9 9	16	3600	.003	
3	72	15	12	12	1500	.0045	
7	72	15	12 7 7 7 7	12	2800	.006	.001
7	72	20	14 14 14 14 14	16	5000	.003	
6	78	16	12 12 12 12	14	2600	.006	
3	82	14	10	12	900	.0065	
3	82	15	10	12	2600	.007	
3	82	16	12	13	1300	.0055	
4	82	15	10 10	12	2600	.008	
7	82	15	12 7 7 7 7	15	2000	.006	
9	82	18	12 12 12 12 12	16	1200	.005	
9	82	16	12 8 8 8 8 8 8	14	2700	.008	
				12	2000	.009	.002
7	84	18	7 7 7 7 7	10	0	.0035	
3	86	14	12	12	1200	.009	
3	86	20	12	12	0	.004	
6	86	16	10 8 8 8	14	3000	.004	
9	86	15	12 7 7 7 7 7 7	12	2500	.011	002
7	88	18	12 12 12 12 12	14	5000	.008	.002
4	90	20	14 12	14	3600	.0065	.001
7	90	18	12 10 10 10 10	14	3000	.007	.002
7	90	20	12 12 12 12 12	16	3600	.006	.002
9	90	18	12 10 10 10 10 10 10	14	3000	.007	.002
9	90	20	12 12 12 12 12 12 12	16	3600	.006	.002
2	92	12		12	0	.006	
2	92	14		14	0	.004	
3	92	15	8	12	0	.005	
2	94	16		16	0	.005	
5	94	20	10 10 10	14	2000	.006	.002
10	96	20	16 10 10 10 10 10 10 10	14	500	.006	.001
7	98	22	16 9 9 9 9	18	4000	.006	.0025
9	98	22	16 10 10 10 10 10 10	18	4000	.007	.0025
2	100	12		12	0	.011	
3	100	18	15	15	2000	.009	
7	100	18	12 9 9 9 9	15	7000	.014	.002
9	100	20	14 12 12 12 12 12 12	16	3000	.010	.002
5	102	20	10 10 10	14	4000	.010	.002
7	104	20	12 12 12 12 12	14	3600	.012	.002
5	106	20	14 12 12	16	3000	.011	.002
7	106	20	14 12 12 12 12	16	3000	.011	.002
9	106	20	14 12 12 12 12 12 12	16	5000	.012	.002
9	106	22	11 11 11 11 11 11 11	18	4000	.009	.002
3	107	18	12	14	2500	.012	.002
4	108	22	16 16	16	4000	.011	
7	108	20	10 10 10 10 10	16	3600	.011	.002
9	110	20	12 12 12 12 12 12 12	16	6500	.015	.003
10	110	22	16 10 10 10 10 10 10 10	18	4000	.009	.003
7	114	22	14 12 12 12 12	16	4500	.011	.003
9	114	22	14 10 10 10 10 10 10	16	4500	.011	.003
3	116	12	12	12	0	.018	.005
7	116	22	18 12 12 12 12	18	2600	.011	.003
7	116	22	18 12 12 12 12	18	3900	.011	.003
8	116	20	15 9 9 9 9 9	15	3600	.014	.003
9	116	20	14 10 10 10 10 10 10	14	4000	.013	.003
9	116	22	18 12 12 12 12 12 12	18	6500	.013	.003
3	118	20	12	16	3600	.012	.004
5	118	22	16 10 10	16	4000	.012	.002
7	118	22	16 12 12 12 12	16	4000	.012	.003
8	118	22	14 12 12 12 12 12	16	4000	.011	.003
9	122	22	16 12 12 12 12 12 12	18	4000	.013	.003
10	122	24	16 10 10 10 10 10 10 10	18	7000	.012	.003
2	123	18		18	0	.005	.005
5	124	22	18 14 14	18	5000	.011	.003
7	124	22	14 12 12 12 12	16	3600	.012	.003
7	124	22	18 16 16 14 14	18	5000	.011	.003
9	124	22	14 12 12 12 12 12 12	16	3600	.012	.003
10	124	24	18 11 11 11 11 11 11 11	18	4000	.012	.003
5	127	24	12 12 12	16	4000	.016	.003
9	128	22	16 11 11 11 11 11 11	16	2500	.014	.003
10	128	24	16 11 11 11 11 11 11 11	16	4000	.016	.003
2	130	12		12	0	.020	
3	130	20	12	12	0	.011	
10	130	24	16 11 11 11 11 11 11 11	16	4000	.016	.003
5	134	22	16 12 12	18	3900	.018	.003
7	134	22	16 12 12 12 12	18	3900	.021	.005
10	136	24	24 16 12 12 12 12 12 12	14	1000	.016	.002
9	145	26	16 11 11 11 11 11 11	16	2800	.022	.006
11	145	26	16 11 11 11 11 11 11 11 11	16	2800	.022	.006
8	146	24	16 12 12 12 12 12	16	3500	.022	.004
2	148	20		15	0	.012	.003
3	148	22	18	18	4000	.025	.003
3	156	26	16	20	4000	.012	.006
5	156	26	16 13 13	18	3000	.027	.004
7	156	26	16 13 13 13 13	18	3000	.028	.004
9	156	30	20 13 13 13 13 13 13 13	18	4000	.017	.0085
10	160	28	18 13 13 13 13 13 13 13 13	18	3000	.024	.004

the top roll, the other rolls being all absolutely straight. This done, we always try to stack up in our shop and test the joints with an electric light carried slowly along the joints of the rolls on one side while the observer follows along on the other. If any light appears, the roll showing it, is put back and the grinding corrected. A record is made of all the dimensions, pressures and other facts connected with the stack, together with the crown given. In this way we have accumulated an invaluable amount of data.

IMPROVED MICROMETER ROLL CALIPER

From the data thus obtained we have computed Table 2, which gives the crown for various stacks, together with the number of rolls in the stack, the length of face, diameters of bottom, intermediate and top rolls, the pressure exerted by the weights and levers on the journals of the top rolls, the crown given the bottom roll and the crown given the top roll. It is, of course, understood, that the intermediate rolls in every case are ground perfectly straight. This table does not cover all the combinations that can be made, but is only taken from actual stacks; neither can it be taken as absolutely correct for all cases, as different mills have different conditions to meet; but it should be a useful guide in determining the crown for almost any stack of calenders. The figures given are correct when all the rolls are used and when the pressure used is as noted.

Many times, however, a stack will be used without any weights or with more than that shown; or may be used with one, two or three of the rolls hung up and not resting on the bottom roll at all. In such cases, of course, the crown will not be absolutely correct, nor could a crown be given that would be correct under all of the above conditions, but our experience has been that if care is used to have the crown exactly the right

shape, as given under Formula 2 and the straight rolls are absolutely straight, there will not be very much difficulty with the amount of the crown.

Effect of Heat on the Rolls

The crown of the bottom and top rolls and the parallelism of the intermediate rolls may be ever so accurate, but if in service one part of the stack is permitted to heat up to a higher temperature than another part, this accuracy will be defeated, so far as even calendering is concerned. This can be readily understood if the expansion of cast iron is considered. If for instance, on a large ten high calender stack, the ends of the rolls should rise to a temperature 10 degrees above that of the middle, the total increase in the end diameter would amount to from 0.008 to 0.0009 inch and this might equal one-half the crown which had been given the bottom roll and would act in the same manner as making the crown that much less. Or if the temperature at the middle of the rolls should be 10 degrees higher than at the ends, there would be an increase in the diameters at the middle, which would have the same effect as adding that much to the crown given. This formerly caused much more trouble than it does at present, as most mills now have their calenders equipped with cold air blast which may be directed against any part of the stack which shows signs of heating, and the journals are kept cool by water circulation around the bearings and by more efficient lubrication.

In the regrinding of rolls, they revolve on their own journals and this matter of heating of the journals in the operation must be looked out for. If when the grinding is completed and on measuring found to be correct, but the journals are hot or even warm, there will be found quite a discrepancy when they cool off. It is necessary, therefore, to keep the journals cool during the grinding operation.

It has come to be recognized by all paper makers that in order to turn out the best product, their rolls must be kept in good condition. This necessitates repeated regrinding, the frequency of which, of course, depends on the class of paper being made, the quality of the stock, the speed of the machine, etc. In order to take care of this the mill should carry spare rolls, so that they may be ground ready to be placed when a worn roll is taken out, and if the mill is situated so that there is no repair shop having a grinder within convenient trucking distance it should have a roll grinding machine of its own.

Effect of Water Finishing on Rolls

Chilled iron calender rolls having the proper depth of chill of the right hardness will, under most conditions prevailing in the mills, last almost indefinitely, with proper care and regrinding when necessary. Where water finish is applied, however, the rolls will wear rather rapidly, needing frequent regrinding and in the course of years may wear through the chill and will have to be replaced. The wear on rolls on which water is used depends largely on the quality of the water used for the purpose. Hard water or water carrying sand, grit or acids will cause the rolls to wear very rapidly. The service on the heavy high speed news machines is also very hard on the calender rolls, necessitating frequent regrinding. This in time may wear them through the chill, but it will require quite a while to do this. Another service that is hard on chilled rolls is in the calenders on hard tissue papers such as bread wrappers; particularly if the stacks are heavy. The rolls in this case do not wear away so very fast, but the paper being so thin and hard, the rolls almost touch each other and the surface has a tendency to indent and roughen up. When this roughness becomes so pronounced that it marks the paper, the remedy is in regrinding.

Effect of Rusting on Rolls

Very often it takes longer in the grinding machine to correct the abuse on a chilled roll than it does to remove the effects of legitimate wear. If the faces of rolls are permitted to rust, the corrosion will penetrate very quickly and it will require considerable time to grind out the pits. Every effort should be made to prevent rusting. Whenever the calendars are shut down, the rolls should be cleaned off and kerosene run through. If the shut down is for any length of time or if some of the rolls are hung up out of use they should be slushed with coating oil. Spare rolls should be slushed, wrapped in cloth and kept in boxes, resting on their journals. If the faces are permitted to rest on the wood of the box or on the floor they will rust very quickly.

Calenders should never be run for more than a few minutes without paper between the rolls. This will roughen the faces and destroy the finish.

Grinding Wheels

The grinding wheels for grinding chilled rolls are made especially for that purpose by the manufacturers and are bonded with what they term an elastic or shellac bond. A hard vitrified wheel will not grind chilled rolls satisfactorily. More trouble is experienced in the grinding of rolls from the lack of uniformity in the grinding wheels than from any other source. A wheel which is too hard will not cut freely and will glaze over, while a wheel which is too soft will not carry the cut and will scratch the roll.

While a wheel which is best for chilled iron is not best suited for brass or rubber, yet if there are not too many of these latter to grind, it may pay to change wheels. However, to obtain the very best results, spare arbors should be carried with wheels suited to the various materials.

New Slitter and Disc Grinder

The Bridgeport Safety Emery Wheel Company, Bridgeport, Conn., has on the market a new type of slitter and disc grinder which is represented in the accompanying illustration. The machine is arranged for alternating current, motor drive, which eliminates all belting.

The grinding wheel is carried directly on the shaft of the driving motor and has a suitable guard provided. This motor shaft is equipped with ball bearings, one bearing on each motor and shield. These ball bearings take all radial load and stabilize the shaft endwise, resulting in a very free and smooth-running grinding wheel. The grinding wheel head is mounted and may be swiveled on a slide which operates in and out by hand through a screw and hand wheel.

The work spindle is driven by a motor mounted directly on the work head and connected to the work spindle by a silent chain and suitable gearing to obtain the proper work speed. The work head is also mounted on a slide, upon which it may be swiveled. This swivel permits of grinding bevels either way on the work. The slide may be fed in or out by means of a screw and hand wheel. A graduated collar indicates the amount of feed. The ways upon which the work head slide operates are at a right angle to those of the grinding head.

The machine is arranged for grinding dry, but may be arranged for wet grinding, using centrifugal pump.

Water System for Pulp and Paper Plants

PORTLAND, Ore., June 10, 1927.—The Chamber of Commerce of Everett, Wash., and the city water superintendent, Carl F. Klapp, are considering the matter of an increased industrial system to supply water to proposed pulp and paper plants. One paper concern has already taken an option on a Riverside site and a second group of paper men are interested in sites in Snohomish county.

Give Your Belts a Chance to Do Their Best

By Joseph Rhoades *

While leather belts made by the best methods and properly installed give very little trouble, every belt should be under the supervision of someone who knows what a belt should do when working under fair conditions.

In common with all manufacturers, we sometimes have to meet complaints. Through our decades of experience in furnishing, installing and repairing belting, we have found that one of the most common sources of complaint is that pulleys are not exactly in line. If satisfactory production is to be secured, it is essential that pulleys should be accurately lined up. If a belt tends to run off one edge of a pulley, the alignment should be looked into immediately.

Another source of trouble is that in joining the belt the ends are not cut exactly square, or if the belt is made endless the joint is not made square and straight. Before lacing a belt it should be cut or tested with a try-square. In lacing the belt the edges should be in line and the ends closely abutted, and the lacing should be drawn through at sufficient and uniform tension.

The belt should be cut to a length that will insure sufficient belt tension to grip the pulleys and transmit full power. Put the belt on snug at first. The best belting will stretch enough to insure an easy drive. On a vertical or steep drive, the belt should be kept fairly tight. Do not permit any belt to get too loose, although on belts that are horizontal or nearly so, slackness on the upper side has the advantage of making the belt hug the pulleys closer, and of saving strain on bearings and machines. Avoid having a belt slack on the under side.

There is a great difference in the transmission grip of different beltings. Most leather belts have stronger transmission grip than non-leather belts. But there is a big difference in leather belts. It is of prime importance that the leather be tanned and finished especially for transmitting power as belting and not for making shoe soles. This, for two important reasons. First, that it shall have the strong grip that keeps the machines going at uniform speed and full capacity, so as to insure both quantity and quality of output. Second, that the belts shall last long, causing a minimum of trouble and delay for take-ups and repairs, and the lowest belt cost per year. This low cost per year is not insured by low first cost. Often the highest-priced belts cost least in the long run. It pays to know how long your belts last, whether they transmit power efficiently, and how much expense they incur for take-ups and repairs. Belts should be bought with the same judgment and knowledge with which machinery contracts are placed.

* J. E. Rhoades & Sons, Philadelphia, Pa.

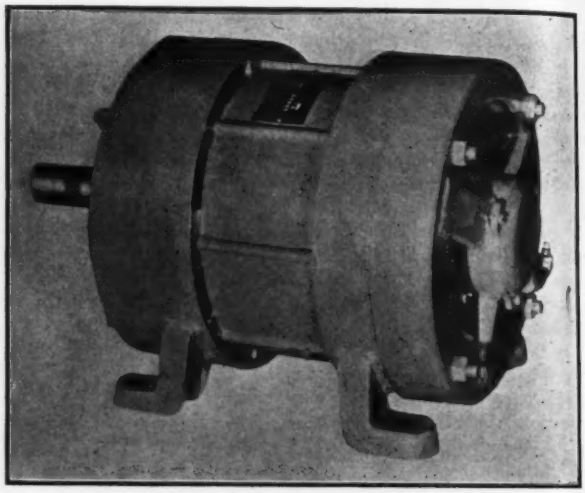
All Steel Line of Ball Bearing Induction Motors

A complete line of all steel, ball bearing polyphase induction motors, ranging in size from 1 to 100 horsepower in all standard voltages and cycles, is announced by The Lincoln Electric Company of Cleveland, Ohio. This type of motor is representative of the new designs of equipment being brought out by The Lincoln Electric Company, in which gray iron and malleable castings have been entirely replaced by hot rolled steel.

It is claimed that every part of the motor is at least twice as strong as the former type which was built with a cast iron frame. An example of the increase in strength of the frame is cited in the case of the motor feet. Drop forged steel feet are welded on to the hot rolled steel end rings of the motor. This, it is claimed, eliminates a common source of difficulty with electric motors arising from the fact that cast iron feet are frequently broken off in rough handling. The end brackets or bearing supports are also made up of welded steel construction giving a complete all steel motor.

Economies in manufacturing by the new process have permitted the use of much larger shafts and bearings than is usually found on this type of equipment.

Owing ot the greater strength of steel as compared with cast iron, less thickness of metal is required in the frame. It is claimed that the increased ventilation so obtained results in a



New Type of Lincoln Motor

considerable increase in the overload capacity of the motor, so that a continuous overload of from 10 to 50 per cent can be handled by the motors depending upon the size and speed.

J. V. N. Dorr Honored

In consideration of the important contributions to the metallurgical and chemical industries made by the well known engineer, J. V. N. Dorr, president of The Dorr Company, Rutgers University, conferred upon him the degree of Doctor of Science at its Commencement on June 11th.

After early association with Thomas A. Edison, Dr. Dorr gained experience in the Black Hills of South Dakota as a metallurgical chemist. He later entered into a partnership and personallp undertook the reconstruction of a previously unprofitable gold milling operation which became widely known through his originating a new method of classification, the advantages of which were immediately recognized in this and in other industries.

Dr. Dorr was next responsible for the introduction of an apparatus by means of which the process of settling was made continuous. As an outcome, counter current washing was made continuous and has been adopted not only in the metallurgical industry for the recovery of solutions of gold, silver, copper, zinc, etc., from the treatment of their ores, but also in many chemical industries where solids are washed free from solutions.

Dr. Dorr has been responsible also for the development of other apparatus, widely used in connection with the handling of finely divided solids in liquid, the principles of which he has made his life study and which today have found application in a wide variety of industries including sugar, paper, sewage disposal and water purification. Like all leaders, Dr. Dorr gives credit for much of his success to the efforts of his associates both in this country and abroad, many of whom have worked with him since his South Dakota days. To collaborate with his associates abroad, Dr. Dorr is now in Europe.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

The "Why" and "Wherefor" of the Cost Association of the Paper Industry

By Thomas J. Burke, C. A., Secretary-Treas.

The Cost Association of the Paper Industry is an outgrowth of the Cost Section of the American Paper and Pulp Association, which was formally organized at a meeting held in New York City on November 15, 1917. It was intended to hold a Cost Convention in the Spring of 1918, but on account of the war, the convention was not held until October, 1918, at Holyoke, Mass. Following that, it was decided to hold a second convention in Buffalo, N. Y., in December, 1918. At Buffalo, a permanent organization was formed independent of, but affiliated with the American Paper & Pulp Association, and known as the Cost Association of the Paper Industry.

Purpose

The Cost Association was organized for the purpose of bringing about co-operation to a high degree among manufacturers of pulp and paper and converters of paper, to the end that there might be developed in every plant, a cost system that will furnish proper methods of control, leading toward economies in cost of production, and to assist in making the future of the pulp and paper industry economically secure, through the promotion of the sound business principle, of taking into prominent consideration, accurately determined costs, when making the selling prices.

Plan of Action

Co-operative effort is the basis of all activities carried on by the Cost Association. A definite plan has been worked out, first by working through classified group committees, and second, by the formation of local divisions in various paper and pulp centers.

National Conventions

National conventions of two days duration are held twice a year, which furnish opportunity of discussing general economic and accounting problems, affecting the industry as a whole, as well as offering opportunity for the discussion of specific problems affecting different branches of the industry.

Necessity for Work Done by Association

It is hardly necessary to dwell on the necessity of cost information for individual companies, for no company can hope to operate its business with a maximum degree of success and efficiency, unless it has definite cost methods enabling the management to know just what its various products are costing to manufacture. The technique of cost accounting in the industry has improved rapidly during the eight years the Association has been in existence. While this has been in a great measure due to the educational work done by the Association, it has also been partly due to the general recognition by industry at large, that cost facts are absolutely necessary for successful management. The largest and most successful firms in each industry have pointed the way, so that today there is hardly a manufacturer who does not recognize the advisability of carefully checking up his costs, although unfortunately there is not that unanimity of opinion as to how this should be done, which is essential for the best business practice. It is to search for the best methods and to bring about their adoption, and finally uniformity of methods, that the Cost Association is working.

A Budget Cost System for Paper Mills

In 1921 the Cost Association issued to its members, a publication entitled "A Budget Cost System for Paper Mills," which in its "foreword" stated, "It is hoped that this publication will aid those who are now operating cost systems, to further perfect their methods if possible, and give impetus and encouragement to those who desire to develop a proper cost system."

Many hundreds of copies of this publication have been distributed in the industry, as well as to universities and business schools. It outlined the fundamentals of a good cost system and dealt with such matters as accounting for materials, departmental accounting, determination of departmental rates, gave a list of accounts and a series of entries illustrating the use of the cost methods outlined.

As a result of this publication, a general forward impetus was given to cost work, and several of the smaller associations formed cost committees, which have functioned very ably, in promoting better cost methods in their group.

Cost Section

Through arrangements made with one of the prominent trade journals, a Cost Section was started in 1922, which has been carried on since that time. In this section accounting articles have appeared regularly, weekly, which have been widely read by the accountants of the industry, as is evidenced by correspondence received at the Association's offices, and which have had their effect in improving the general accounting technique in the industry.

"Pulp and Paper Profits"

In April, 1924, the Association started its own printed Monthly Bulletin, which has appeared regularly, monthly, since that date. This Bulletin is sent not only to the members of the Cost Associa-

tion, but to members of the American Paper and Pulp Association and all its affiliated associations. No charge has been made to non-members of the Cost Association, although they were invited to pay a small sum yearly to cover cost of printing, mailing, etc. Over 100 mills have willingly done this, but as 800 copies are distributed monthly, and the membership of the Cost Association is approximately 100, 600 copies have been distributed monthly without cost to the recipients.

Included in the articles published, are transcripts of the proceedings of the conventions held by the association, and the fact that numerous letters have been received from executives and accountants, prove that this journal is being widely read, and that the service given is appreciated by the industry at large.

Necessity for Co-operation of Executives

The work of the Association has, however, suffered somewhat, through lack of sufficient funds to carry on to the best advantage. Its yearly income has ranged between $10,000 and $12,000, barely sufficient to maintain an office in New York, pay the secretary-treasurer's and stenographer's salaries, and provide sufficient traveling expenses for the former to visit the mills, as well as to cover convention expenses, etc.

No financial support has been received from the American Paper and Pulp Association or any of its affiliated associations, the Cost Association being entirely self-supporting, and the brunt of the work of financing has fallen on the executive committee of the association.

The American Paper and Pulp Association, recognizing the value of the work done by the Cost Association, has decided to make an appeal to its members, to support this work, and this appeal will shortly be made by the executive secretary, Dr. Hugh P. Baker. It is hoped that as a result of this appeal, there will be a substantial increase in the membership of the Cost Association, which will enable it to function with more direct benefit to its members, than has been possible in the past, with its limited appropriation. At least 50 new members are required to give it an income sufficient to enable its secretary-treasurer to do the most efficient work, and as the dues are only $115 per annum, it is believed that with the assistance of the secretaries of the affiliated associations, it will be easily possible to obtain these members.

Relation of Cost to Selling Prices

A few quotations from an address given by Prof. T. H. Sanders of the Graduate School of Business Administration of Harvard University, at the recent meeting held by the Cost Association, at the Waldorf-Astoria Hotel, New York City, on the subject of "The Relation of Cost to Selling Prices," might be given to advantage. Among other things Mr. Sanders said: "It is one of the perpetual subjects of discouragement to cost accountants, that we are told on all sides that our work is vain, because when you come to sell a product, there is no relation between cost and selling prices." Mr. Sanders went on to say, that while economists admit there may be no *direct* relationship in any given case, between cost and selling prices, that undoubtedly in the *long run* there *is* a close relationship between them; illustrating this by pointing out, that those who can produce at a cost which will give them a margin of profit on the selling prices fixed by the market, will survive, while the others will not, and that therefore, it became very necessary to know your costs exactly and accurately.

Mr. Sanders addressed a questionnaire to twenty-two associations, including nearly 11,000 different organizations, to ascertain what seemed to be the relation between cost and selling prices, in these industries. The replies indicated that *the majority believed that costs and market conditions were equally contributory to the determination of selling prices.* All of them agreed that to an appreciable extent, costs were considered in determining selling prices, and that taking the replies as a whole, "there is a preponderant sentiment that costs do tend to be the largest element in determining the selling prices."

Uniform Cost Systems

In an industry with a surplus machine capacity and severe competition, executives should recognize the vital necessity of encouraging the use of accurate cost methods. Many other activities are being carried on by the industry, dealing with technical problems, production problems and selling problems. They all have a bearing on costs and selling prices, and to properly understand the savings effected and to compare them in a satisfactory way with other mills, it is essential that the costs shall be collected in a uniform manner. Before uniformity can be sold to the industry, a great deal of research work must be done. The Cost Association is doing this work, as well as a great deal of educational work in the case of those executives who do not realize the importance of the relation between cost and selling prices. With the full co-operation of the industry, the work will be completed in due course, when it is hoped that the constant selling below cost which is now typical of the industry, will become a thing of the past and that we may look forward to a period of more or less freedom from the economic waste, caused by this practice. Absolute honesty about cost facts will do more than any other one thing to end it. We believe the majority of executives desire to be absolutely honest in these matters, but are prevented from closer co-operation through technical differences in the cost methods in use in their respective mills. Such differences are really important, but can be eliminated by careful investigation and research. Once uniformity has been obtained, many of the ills, to which the industry is now heir, will disappear, because it will make possible the collection of cost data for each group, that will be absolutely reliable and trustworthy. With such data available, the risk involved in selling below cost will be more clearly indicated, and the possibility that it will be done will be correspondingly less. Other associations speak highly of the excellent results following the adoption of uniform cost systems by their members, and we believe the time is not far distant when our members will have an opportunity of judging for themselves the benefits resulting therefrom.

Assistant Paper Technologist

Applications for assistant paper technologist must be on file with the Civil Service Commission at Washington, D. C., not later than July 12.

The examination is to fill vacancies in the Bureau of Standards and in the Government Printing Office, Washington, D. C., and in positions requiring similar qualifications.

The entrance salary is $2,400 a year. A probationary period is required; advancement after that depends upon individual efficiency, increased usefulness, and the occurrence of vacancies in higher positions.

The duties will comprise the application of scientific methods to the paper industry; original investigations; development of processes and devices for testing and treating paper; physical or chemical testing of paper; and development of standards for paper and articles manufactured from paper pulp.

Competitors will not be required to report for examination at any place, but will be rated on their education, experience, and fitness; and publications, reports, or thesis to be filed with the application.

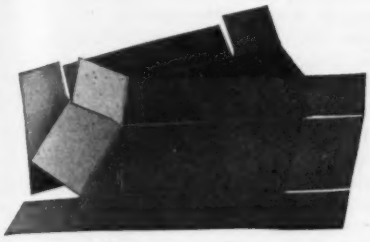
Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. Civil Service Examiners at the post office or custom house in any city.

Power Project for Projected News Mill

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 14, 1927.—Paul Howard Kollinz, has applied to the Federal Power Commission for a preliminary permit for a proposed power project of 104,500 installed horsepower capacity, to be used in connection with a projected news print paper mill. This proposed project will be located on Long Creek or River, Crater and Sweetheart Creeks, Speel River and Sweetheart Crater and Long Lakes, within the Tongass National Forest, Alaska.

Paper Makers *and* Paper Shippers

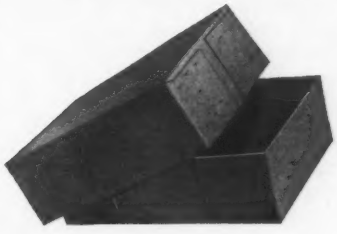


CARTONS can be ordered in the flat, die-cut and scored, ready for assembling, and STITCHING MACHINES INSTALLED TO ASSEMBLE CARTONS AS NEEDED. The cost of cartons *in the flat* is lower, the freight is less, and the storage space greatly reduced when handled in this manner.

One Operator Can Stitch Up to 1,000 Containers Per Day

2 Flat Blanks—
A Morrison "Perfection" Stitcher—
and You Have a Complete Telescope Container!

WRITE NEAREST OFFICE FOR DETAILED INFORMATION



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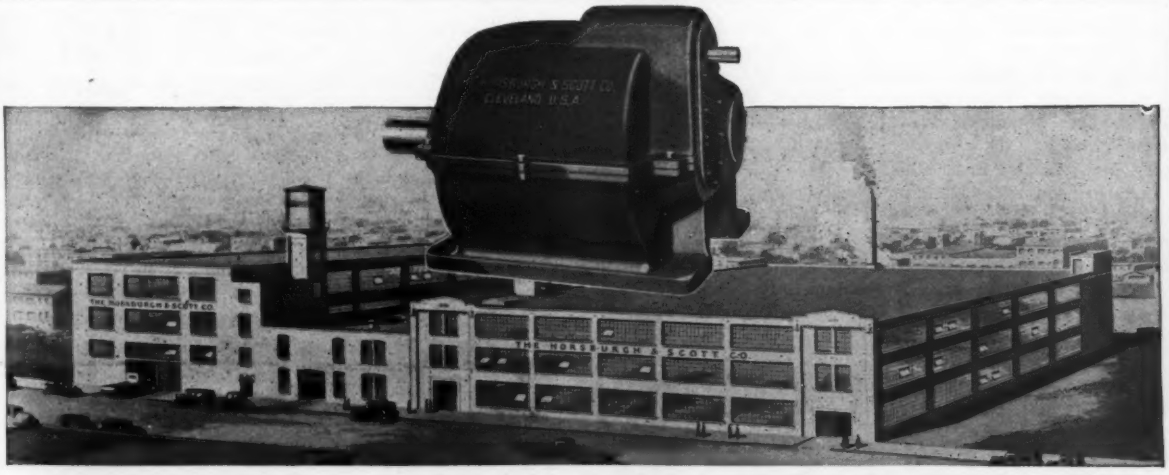
General Offices and Factory: NIAGARA FALLS, N. Y.

424 West 33rd Street—NEW YORK CITY 116 West Harrison Street—CHICAGO 445 King Street, West—TORONTO, CANADA



Gears and Speed Reducers

The Horsburgh & Scott Co.

5000 Hamilton Ave. *"Gear makers since '89"* Cleveland, U. S. A.

Gears for Every Industrial Purpose—Worm—Bevel—Herringbone—Spur—Spiral—Hardened Heat Treated Gears—Non-Metallic Gears and Pinions

Whitney Bros. Celebrate 50th Anniversary

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 20, 1927.—Whitney Brothers, Inc., are celebrating their golden anniversary as a paper house in Boston. Two brothers, William and Clarence Whitney, organized the business in this city in 1877, with their first location at 64 Kingston street. After remaining there for a few years they removed to 63 Essex street, occupying offices in a building which stood on the site of a branch office of the Bell Telephone Company. In 1913 the concern removed to 84 Chauncy street and later to 34-38 Farnsworth street, the present address.

William Whitney died in June, 1902, and Clarence Whitney in December, 1913. As Clarence Whitney had no children the administrator of the estate sold the business to the present company which was incorporated in 1914. The new company took a charter as a Massachusetts corporation. The present executives of this corporation are Charles A. Shaw, president, F. D. Coope, vice-president and clerk, and Matthew O. Byrne as treasurer.

Mr. Shaw's first experience in the paper business was with the original Whitney Brothers in 1902. He remained with them until 1905, then going to Stone & Forsyth. From that firm he came back to Whitney Brothers, January 1, 1914.

When the present company bought out Whitney Brothers and became incorporated, Mr. Byrne was president, Mr. Shaw, vice-president, and J. B. Reed, treasurer. Mr. Reed retired in 1921 and the new officers were elected with Mr. Shaw as prsident, Mr. Byrne, treasurer, and Mr. Coope as vice-president and clerk.

At the time of the purchase of the business the activities of the concern were comparatively small, but the new corporation enlarged operations extensively, so that it has now become one of the leading wholesale paper houses of the country. The company handles paper, twine, cordage, bags, boxes, and paper specialties.

Whitney Brothers, Inc., are distributors for the Bayless Manufacturing Company, Austin, Pa.; American Lakes Company, Waukegan, Ill.; Thilmany Pulp and Paper Company, Kaukauna, Wis.; International Paper Company, Gator Hide Kraft, Bastrop, La.; Columbia Paper Bag Company, Baltimore, Md.; Northern Wooden Ware Company, Island Falls, Me.; American Reinforced Paper Company, manufacturers of Fibreen Water-Proof Reinforced Paper, Attleboro, Mass.; Schlichter Jute Cordage Co., Philadelphia, Pa.; New Bedford Cordage Company, New Bedford, Mass.; Chelsea Fibre Mills, New York City; Columbia Rope Co., Auburn, N. Y., and Ludlow Manufacturing Associates, Boston, Mass.

Both Mr. Shaw and Mr. Byrne are associated with the New England Paper Merchants Association. Mr. Shaw is chairman of the twine and cordage committee of the National Paper Trade Association. In his capacity as chairman he has made wonderful progress in the standardization of twines and cordage which he is working out for the benefit of all paper merchants. When the manufacturers of paper bags all over the United States started a movement to standardize all grades of grocers' bags with the idea of eliminating sizes not advantageous to the manufacturer or the paper merchant, the National Paper Trade Association formed a committee to represent that body at Washington, cooperating with the manufacturers of grocers' bags. Mr. Byrne was appointed by the president of the National Paper Trade Association as chairman of that committee. The program of standardization and simplification of grocers' bags as regards the weights, sizes, and grades was accepted by the Department of Commerce at Washington, and is now in effect all over the United States.

Mr. Byrne was with Stone & Forsyth for 22 years and, as intimated, has been a member of the present corporation since its establishment 13 years ago. Comparing conditions of 35 years ago with those of today, Mr. Byrne remarks that competition was just as keen and the situation just as complicated then as it is now. In the grades of paper there was no such thing as kraft. The best grade of wrapping paper was made of manila and fibers. The paper generally used in stores and markets was manufactured from straw. Today nearly every store uses a good grade of sulphite or kraft paper. Markets which used straw paper 35 years ago are now using parchment and fiber.

Relation Between Printer and Paper Maker

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, June 20, 1927.—"The Relation between the Printer and the Paper Maker" was the subject discussed by John White, vice president of the International Association of Printing House Craftsmen, at the June meeting of the Dayton Printing House Craftsmen at the Rike-Kumler dining rooms the past week. The affair was in the nature of a 6 o'clock dinner and the attendance was up to expectations.

Mr. White's knowledge of the business and the fact that he is well-known in the paper trade, aroused keen interest in his talk, which was comprehensive and practical. As paper mill superintendent of the American Writing Paper Company's mills at Holyoke, Mass., he is regarded as one of the leading authorities on the subject he discussed and he showed beyond doubt that the relations between the printer and the paper maker should be of the friendliest and most confidential nature. The address was educational, in that it presented the subject in a manner not heretofore thought of by many. The relations between the maker of paper and the user are of special importance, he contended, because the success of one depends largely upon the other. Bad work on the part of the printer could ruin the reputation of the manufacturer and bad work on the part of the paper maker could inflict the same punishment upon the printer. He was glad to say, he stated, that most printers are painstaking to a marked degree and that the efficiency of the printer has steadily increased until the art preservative is regarded as a leading vocation, and one in which consummate skill and good judgment are required.

Lawrence Bag Co. Displays Big Sign

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, June 20, 1927.—A large sign, running the entire length of a long factory building, has just been placed on the plant of the Lawrence Bag Company at Grand avenue, and the Big Four Railroad, Middletown, and is attracting much attention. Tourists and others who have occasion to ride on the trains cannot escape the fact that the Lawrence Bag Company has a good-sized factory in Middletown. Of course, the same concern has a factory in Miamisburg, ten miles south of Dayton, but the sign in particular brings the Middletown enterprise to public gaze in a striking manner.

The Lawrence Company purchased the buildings of the Miami Cycle and Manufacturing Company in July, 1924. The capacity of the firm is shown by the fact that all of the 110,000 square feet of floor space is utilized in the manufacture of paper bags. James Lawrence is president of this concern and also the Raymond Bag Company and vice president of the Wardlow-Thomas Paper Company, G. L. Kemp is secretary; E. E. Brown, treasurer and general manager; M. A. Thomas, H. L. Brooks, George Brown, W. F. Lawrence, and V. C. Hatfield, members of the Board of Directors.

To Be Dutiable As Wrapping Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 14, 1927.—Frank Dow, acting Commissioner of Customs has sent a communication to the Collector of Customs at New York informing him that sheets manufactured from straw nine one-thousandths of an inch in thickness or over, the product of Fourdrinier machines, shall be dutiable either "as wrapping paper at the rate of 30 per cent ad valorem under paragraph 1309 or as paper not specially provided for at the same rate under the same paragraph." It was contended by the importers that this should be dutiable as strawboard under paragraph 1302.

via "Aerial Railway" for faster handling

That's the way modern industry is routing its loads. Not only because the "airline" is faster but also because it saves valuable floor space and labor.
This "Aerial Railway" consists of a Shepard cage operated electric hoist operating on a Shepard Transfer Crane and monorail track with suitable switches to enable the hoist to cover any desired area.
The consistency of Shepard service is a direct result of the performance-proved Shepard design which includes "Balanced" gear drive, enclosed unit straight line construction and automatic oil bath lubrication.
Our engineering department is at your service.

SHEPARD ELECTRIC CRANE & HOIST CO.
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Branch offices are maintained in principal cities.

FINE FACE FELTS FOR FINE PAPERS

ENGLISH or BAKER WOVEN

Absolutely leave no felt marks in paper. TRIUNE Three Ply Felts insure large production. Made from

60" TO 214" WIDE

FITCHBURG DUCK MILLS
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82 Years Making Fine Face Felts for papermakers

SOME PAPER MILL USERS OF
Badenhausen Boilers
Superheaters :: Preheaters

Geo. F. Hardy, Consulting Engineer, New York
For Southern Paper Co., two orders, total 4700 H.P.
For St. Croix Paper Co. .....1200 H.P.
For Brown Paper Mill Co. .....3430 H.P.
Central Paper Co., Muskegon, Mich., four orders, total .....3100 H.P.
Philadelphia Paper Mfg. Co., Phila., three orders, total .....2400 H.P.
Jessup & Moore Paper Co., Phila., four orders, total .....4750 H.P.
Ontario Paper Co., Ltd.
For Daily Newspaper Co., North Tonawanda, N. Y. .....2034 H.P.
Filer Fibre Company, Filer City, Mich. .....1500 H.P.
John Lang Paper Co., Philadelphia, Pa..... 416 H.P.
Bayless Manufacturing Corp., Austin, Pa.....1300 H.P.
Northern Board & Paper Co., San Francisco, Cal., two orders, total ..... 400 H.P.
Crown Williamette Paper Co., San Francisco, Cal., two orders, total ..... 750 H.P.
Delaware Hard Fibre Co., Wilmington, Del., two orders, total ..... 920 H.P.
Kieckhefer Container Co., Delair, N. J. .....1800 H.P.

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Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JUNE 18, 1927

SUMMARY

Cigarette paper	4,909 cs.
Wall paper	11 bls., 8 cs.
Paper hangings	22 bls., 24 cs.
Hanging paper	1 cs.
Painted paper	3 cs.
News print	945 rolls
Printing paper	27 rolls, 15 bls., 111 cs.
Printed paper	9 bls., 1 cs.
Wrapping paper	205 rolls, 80 bls., 28 cs.
Packing paper	100 cs.
Parchment paper	125 bls.
Silk paper	6 cs.
Stencil paper	37 cs.
Fancy paper	1 cs.
Filter paper	143 bls., 15 cs.
Baryta coated paper	82 cs.
Surface coated paper	109 cs.
Metal paper	4 cs.
Drawing paper	57 cs.
Envelopes	60 cs.
Writing paper	34 cs.
Transfer paper	29 cs.
Decalcomania paper	10 cs.
Cover paper	7 cs.
Tissue paper	23 cs.
Photo paper	9 cs.
Colored paper	11 cs.
Greaseproof paper	4 cs.
Paper tubes	16 cs.
Straw pulp board	149 rolls
Straw board	999 rolls
Miscellaneous paper	166 bls., 18 pkgs., 3 rolls, 233 cs.

CIGARETTE PAPER

Standard Products Corp., Rochambeau, Havre, 95 cs.
Standard Products Corp., Suffren, Havre, 40 cs.
American Tobacco Co., Sarcoxie, Bordeaux, 2,100 cs.
R. J. Reynolds Tobacco Co., Sarcoxie, St. Nazaire, 1,700 cs.
De Manduit Paper Corp., Sarcoxie, St. Nazaire, 828 cs.
P. J. Schweitzer, Pres. Adams, Marseilles, 146 cs.

WALL PAPER

Gallagher & Ascher, Hamburg, Hamburg, 1 cs.
R. F. Downing & Co., Minnetonka, London, 3 bls., 2 cs.
F. J. Emmerich, Minnetonka, London, 3 cs.
F. A. Binder, Muenchen, Bremen, 3 bls.
Thomas & Pierson, Olympic, Southampton, 1 cs.
A. C. Dodman, Jr., Inc., Aquitania, Southampton, 5 bls.
J. E. Bernard & Co., Aquitania, Southampton, 1 cs.

PAPER HANGINGS

G. J. Hunken, Hamburg, Hamburg, 1 ble.
A. C. Dodman, Jr., Inc., Scythia, Liverpool, 1 ble.
W. H. S. Lloyd & Co., Scythia, Liverpool, 1 cs., 4 bls.
W. H. S. Lloyd & Co., Minnetonka, London, 16 bls., 4 cs.
Whiting & Patterson Co., Inc., Minnetonka, London, 17 cs.
Whiting & Patterson Co., Inc., Aquitania, Southampton, 2 cs.

HANGING PAPER

E. G. Veith, Suffren, Havre, 1 cs.

PAINTED PAPER

Keller Dorian Paper Co., Aquitania, Southampton, 1 cs.
Hensel, Bruckman & Lorbacher, Suffren, Havre, 2 cs.

NEWS PRINT

Parsons & Whittemore, Inc., Yorck, Bremen, 22 rolls.
Parsons & Whittemore, Inc., Muenchen, Bremen, 493 rolls.
Parsons & Whittemore, Inc., Natirar, Kotka, 215 rolls.
Walker, Goulard & Plehn, Natirar, Kotka, 142 rolls.
F. Henjes, Jr., Hamburg, Hamburg, 73 rolls.

PRINTING PAPER

Heemsoth, Basse & Co., Hamburg, Hamburg, 25 cs.
Keuffel & Esser Co., Hamburg, Hamburg, 27 rolls.
E. Dietzgen & Co., Veendam, Rotterdam, 18 cs.
E. Dietzgen & Co., N. Amsterdam, Rotterdam, 40 cs.
P. C. Zuhlke, Arabic, Antwerp, 28 cs.
Walker, Goulard & Plehn, Pres. Wilson, Trieste, 15 bls.

PRINTED PAPER

Cheramy, Inc., Olympic, Southampton, 1 cs.
P. H. Petry & Co., Suffren, Havre, 9 bls.

WRAPPING PAPER

T. D. Downing & Co., Hamburg, Hamburg, 4 cs.
Blauvelt Wiley Paper Manfg. Co., Caledonia, Glasgow, 42 bdls.
Hudson Trading Co., Veendam, Rotterdam, 205 rolls, 38 bls.
Birn & Wachenheim, Arabic, Antwerp, 20 cs.
E. Dietzgen & Co., N. Amsterdam, Rotterdam, 4 cs.

PACKING PAPER

Old Master Paper & Pulp Corp., Reliance, Hamburg, 100 cs.

PARCHMENT PAPER

Wilkinson Bros. & Co., Inc., Veendam, Rotterdam, 125 bls.

SILK PAPER

S. Gilbert, N. Amsterdam, Rotterdam, 6 cs.

STENCIL PAPER

Arlac Dry Stencil Co., Hamburg, Hamburg, 36 cs.
G. W. Sheldon & Co., Minnetonka, London, 1 cs.

FANCY PAPER

E. J. Cadigan, Arabic, Antwerp, 1 cs.

FILTER PAPER

C. Schleicher Schull Co., Hamburg, Hamburg, 7 cs.
Madieo Corp., Hamburg, Hamburg, 1 cs.
H. Reeve Angel & Co., Inc., Minnetonka, London, 7 cs.
J. Manheimer, Olympic, Bordeaux, 143 bls.

BARYTA COATED PAPER

Globe Shipping Co., Yorck, Bremen, 75 cs.
Richard Shipping Co., Yorck, Bremen, 7 cs.

SURFACE COATED PAPER

Brown Bros. & Co., Hamburg, Hamburg, 15 cs.
G. W. Sheldon & Co., Minnetonka, London, 1 cs.
P. C. Zuhlke, Arabic, Antwerp, 49 cs.
Gevaert Co. of America, Arabic, Antwerp, 44 cs.

METAL PAPER

W. J. Byrnes & Co., Reliance, Hamburg, 4 cs.

DRAWING PAPER

Keuffel & Esser Co., Hamburg, Hamburg, 55 cs.
H. R. Angel & Co., Inc., Amer. Farmer, London, 2 cs.

ENVELOPES

Globe Shipping Co., Reliance, Hamburg, 60 cs.

WRITING PAPER

F. L. Kramer & Co., Minnetonka, London, 5 cs.
J. Guth, Minnetonka, London, 16 cs.
Globe Shipping Co., Olympic, Southampton, 1 cs.
Guibout freres, Olympic, Southampton, 8 cs.
Globe Shipping Co., Reliance, Hamburg, 4 cs.
Japan Paper Co., Suffren, Havre, 3 cs.
Meadows, Wye & Co., Aquitania, Southampton, 1 cs.

TRANSFER PAPER

F. L. Kramer & Co., Muenchen, Bremen, 29 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Scythia, Liverpool, 2 cs. (duplex).
L. A. Consmiller, Yorck, Bremen, 8 cs.

COVER PAPER

International Forwarding Co., Hamburg, Hamburg, 7 cs.

TISSUE PAPER

F. B. Vandegrift & Co., Scythia, Liverpool, 5 cs.
Meadows, Wye & Co., Scythia, Liverpool, 11 cs.
J. C. Robold, Scythia, Liverpool, 7 cs.

PHOTO PAPER

Medo Photo-Supply Co., Minnetonka, London, 6 cs.
J. J. Gavin, Scythia, Liverpool, 3 cs.

COLORED PAPER

Borden Riley Paper Co., Arabic, Antwerp, 11 cs.

GREASEPROOF PAPER

G. W. Sheldon & Co., Celtic, Liverpool, 4 cs.

PAPER TUBES

H. de Maguinn, Suffren, Havre, 16 cs.

STRAW PULP BOARD

J. P. Heffernan Paper Co., Veendam, Rotterdam, 149 rolls.

STRAW BOARD

Perkins, Goodwin & Co., Veendam, Rotterdam, 223 rolls.
Haas Bros., Veendam, Rotterdam, 120 rolls.
A. Vuyk, Veendam, Rotterdam, 185 rolls.
Haas Bros., N. Amsterdam, Rotterdam, 222 rolls.
A. Vuyk, N. Amsterdam, Rotterdam, 249 rolls.

MISCELLANEOUS PAPER

F. B. Vandegrift & Co., Hamburg, Hamburg, 2 cs.
Perkins, Goodwin & Co., Hamburg, Hamburg, 2 bls.
Buck, Kiaer & Co., Inc., Fred. VIII, Copenhagen, 3 rolls.
W. H. S. Lloyd & Co., Rochambeau, Havre, 18 pkgs.
Brabant Needle Co., Scythia, Liverpool, 1 cs.
Yardley & Co., Ltd., Minnetonka, London, 7 cs.
Haas Bros., Muenchen, Bremen, 164 bls.
Public National Bank, Patria, Marseilles, 25 cs.
Heemsoth, Basse & Co., Veendam, Rotterdam, 26 cs.
International Forwarding Co., Veendam, Rotterdam, 19 cs.
S. Gilbert, Veendam, Rotterdam, 11 cs.
Corn Exchange Bank, Arabic, Antwerp, 50 cs.
Japan Paper Co., Olympic, Southampton, 2 cs.
S. Michan, Olympic, Southampton, 1 cs.
American Express Co., Suffren, Havre, 4 cs.
C. R. Spence & Co., Suffren, Havre, 6 cs.
C. Grimmer & Son, Suffren, Havre, 1 cs.
Keller Dorian Paper Co., Suffren, Havre, 3 cs.
International Forwarding Co., N. Amsterdam, Rotterdam, 75 cs.

RAGS, BAGGINGS, ETC.

C. R. Spence, Incemore, Leith, 73 bls. rags.
G. Lichtenstein, Incemore, Leith, 41 bls. bagging.
G. Lichtenstein, Incemore, Leith, 242 bls. rags.
Union National Bank, Incemore, Leith, 180 bls. bagging.
Furness Withy & Co., Incemore, Dundee, 164 bls. paper stock.
C. H. Dexter Sons, Incemore, Dundee, 20 bls. paper stock.
Equitable Trust Co., Incemore, Leith, 47 bls. bagging.
A. W. Fenton, Inc., Muenchen, Bremen, 41 bls. rags.
American Exchange Irving Trust Co., Muenchen, Bremen, 21 bls. rags.
New York Trust Co., Muenchen, Bremen, 60 bls. rags.
Katzenstein & Keene, Inc., Sarcoxie, Bordeaux, 36 bls. rags.
E. A. Stone, Sarcoxie, St. Nazaire, 601 bls. rags.
Castle & Overton, Inc., Sarcoxie, St. Nazaire, 144 bls. rags.
E. J. Keller Co., Inc., Sarcoxie, St. Nazaire, 60 bls. rags.
Equitable Trust Co., Caledonia, Glasgow, 56 bls. paper stock.
R. Canovai Son, Cabo Espartel, Marseilles, 413 bls. rags.
Brown Bros. & Co., Lucia C., Trieste, 27 bls. rags.
American Exchange Irving Trust Co., Lucia C., Trieste, 31 bls. rags.
Darmstadt, Scott & Courtney, Veendam, Rotterdam, 53 bls. rags.
Bulkley, Dunton & Co., Arabic, ——, 70 bls. bagging.
Bulkley, Dunton & Co., Francisco, ——, 45 bls. rags.
Bulkley, Dunton & Co., Kifuku Maru, ——, 51 bls. rags.
Bank of New York, Kifuku Maru, Hamburg, 106 bls. bagging.
E. Pullan, Ltd., Celtic, Liverpool, 20 bls. rags.
G. M. Graves & Co., Celtic, Liverpool, 54 bls. bagging.
J. Cohen Sons & Co., Inc., Celtic, Liverpool, 27 bls. rags.
Chase National Bank, Taibo Maru, Oran, 190 bls. rags.
A. H. Searle, Artigas, Belfast, 95 bls. paper stock.
M. Snedeker Corp., Artigas, Belfast, 156 bls. paper stock.
New England Waste Co., Artigas, Manchester, 14 bls. cotton waste.
J. Cohen Sons & Co., Inc., Artigas, Manchester, 43 bls. rags.
Warren Manfg. Co., Wytheville, Rotterdam, 62 bls. bagging.
Chemical National Bank, Wytheville, Rotterdam, 14 bls. rags.

(Continued on page 60)

You can take service for granted

You can take long, trouble-free service for granted when you install a genuine Jenkins Valve. You can feel sure that its extra sturdiness will make itself felt in lower maintenance costs.

The Jenkins "Diamond" mark, without which no valve is a genuine Jenkins, is more than a mere identification mark. It is the mark of a valve well made from analyses-proved metals,—a valve which has proved its worth in a wide-margin safety test.

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"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

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Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
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CAMDEN, MAINE

BULKLEY, DUNTON & COMPANY
75-77 Duane St., N. Y., and direct

Imports of Paper and Paper Stock

(*Continued from page 58*)

Darmstadt, Scott & Courtney, M. Arnus, Barcelona, 166 bls. rags.
Castle & Overton, Inc., M. Arnus, Barcelona, 243 bls. rags.
A. H. Searle. Natirar, Gefle, 100 bls. rags.
V. Galaup, Reliance, Hamburg, 30 bls. rags.
J. Cohen Sons Co., Inc., Yorck, Bremen, 9 bls. rags.

OLD ROPE

Brown Bros. & Co., Hamburg, Hamburg, 34 coils.
Brown Bros. & Co., Fred. VIII, Oslo, 38 coils.
Brown Bros. & Co., Scythia, Liverpool, 71 coils.
Brown Bros. & Co., Veendam, Rotterdam, 197 coils.
Brown Bros. & Co., Arabic, Antwerp, 65 bales.
G. M. Graves Co., Inc., London Commerce, London, 23 bales.
G. Lichtenstein, Incemore, Leith, 86 coils.

MANILA ROPE

Ellermans' Wilson Line, Minnetonka, London, 30 coils.

WOOD PULP

E. M. Sergeant & Co., Fred. VIII, Oslo, 160 bls. wood pulp.
Castle & Overton, Inc., Muenchen, Bremen, 470 bls. wood pulp.
Castle & Overton, Inc., Wytheville, Rotterdam, 557 bls. wood pulp, 90 tons.
Pagel, Horton & Co., Inc., Natirar, Gefle, 500 bls. sulphite, 101 tons.
Parsons & Whittemore, Inc., Natirar, Gothenburg, 458 bls. chemical pulp, 76 tons.
Bulkley, Dunton & Co., Natirar, ——, 2,500 bls. sulphite, 508 tons.
J. Anderson & Co., Kifuku Maru, Hamburg, 263 bls. sulphite, 32 tons.

WOOD PULP BOARDS

Lagerloef Trading Co., Natirar, Kotka, 103 rolls, 28 tons.

WOOD FLOUR

E. M. Sergeant & Co., Fred. VIII, Copenhagen, 610 bags.
State Chemical Co., Veendam, Rotterdam, 500 bags.
A. Kramer & Co., Veendam, Rotterdam, 200 bags.
A. Kramer & Co., N. Amsterdam, Rotterdam, 300 bags.

CASEIN

Karolith Corp., Suffren, Havre, 334 bags.

BALTIMORE IMPORTS

WEEK ENDING JUNE 18, 1927

Atterbury Bros., Inc., Lucia C., Trieste, 468 bls. wood pulp.
National City Bank, Lucia C., Trieste, 352 bls. rags.

PHILADELPHIA IMPORTS

WEEK ENDING JUNE 18, 1927

E. H. Bailey & Co., Incemore, Leith, 112 cs. paper.
Union National Bank, Incemore, Leith, 118 bls. rags.
Union National Bank, Incemore, Leith, 69 bls. old rope.
Chase National Bank, Incemore, Leith, 120 bls. rags.
Castle & Overton, Inc., Sarcoxie, Bordeaux, 1,462 bls. rags.
Katzenstein & Keene, Inc., Sarcoxie, Bordeaux 276 bls. rags.
E. J. Keller Co., Inc., Sarcoxie, Bordeaux, 262 bls. rags.
Congoleum Nairn Co., Sarcoxie, Bordeaux, 595 bls. rags.
E. A. Stone, Sarcoxie, St. Nazaire, 589 bls. rags.
Castle & Overton, Inc., Sarcoxie, St. Nazaire, 89 bls. rags.
Castle & Overton, Inc., Sarcoxie, St. Nazaire, 216 bls. old rope.
Goldman, Sachs & Co., Sarcoxie, St. Nazaire, 195 bls. rags.
E. J. Keller Co., Inc., Sarcoxie, St. Nazaire, 92 bls. rags.
F. W. Winne, Wytheville, Rotterdam, 170 coils rope.
Castle & Overton, Inc., Wytheville, Rotterdam, 360 bls. wood pulp, 57 tons.
Bulkley, Dunton & Co., Wytheville, ——, 156 bls. rags.
J. B. Moors & Co., London Commerce, London, 185 bls. rags.
John Lang Paper Co., London Commerce, London, 440 bls. rags.
Phila. Girard Natl. Bank, London Commerce, London, 264 bls. rags.
A. Murphy & Co., London Commerce, London, 2 cs. paper.
Paper Service Co., London Commerce, London, 4 cs. fancy paper.
O. G. Hempstead & Sons, London Commerce, London, 467 bls. rags.
Equitable Trust Co., London Commerce, London, 35 bls. rags.
Union National Bank, London Commerce, London, 60 bls. rags.
Chemical National Bank, M. Arnus, Barcelona, 83 bls. rags.
Chase National Bank, Coer d'Alene, Algiers, 430 bls. rags.
Chase National Bank, Coer d'Alene, Oran, 227 bls. rags.

BOSTON IMPORTS

WEEK ENDING JUNE 18, 1927

Brown Bros. & Co., Maine, London, 135 bls. waste paper.
Baring Bros. & Co., Maine, London, 192 bls. waste paper.
Kidder Peabody Accep. Corp., Maine, London, 1,971 bags casein.
Lagerloef Trading Co., Natirar, Kotka, 179 bls. wood pulp boards, 25 tons.
J. Carter & Co., Natirar, Kotka, 53 bls. news print.
American Exchange Irving Trust Co., Natirar, Kotka, 690 bls. wood pulp.
Pagel, Horton & Co., Inc., Natirar, Gefle, 2,250 bls. sulphate, 457 tons.
Pagel, Horton & Co., Inc., Natirar, Gefle, 4,625 bls. sulphite, 482 tons.
Bulkley, Dunton & Co., Natirar, ——, 1,250 bls. sulphite, 248 tons.
Scandinavian Pulp Agency, Inc., Natirar, Gothenburg, 508 bls. sulphate, 101 tons.
Scandinavian Pulp Agency, Inc., Natirar, Gothenburg, 5,080 bls. kraft pulp, 1,016 tons.
Scandinavian Pulp Agency, Inc., Natirar, Gothenburg, 1,016 bls. sulphite, 202 tons.
Atterbury Bros., Inc., Natirar, Gothenburg, 48 bls. sulphite, 6 tons.
Parsons & Whittemore, Inc., Natirar, Gothenburg, 519 bls. chemical pulp, 86 tons.
Brown Bros. & Co., Francisco, Hull, 246 bls. paper stock.
Brown Bros. & Co., Francisco, Hull, 305 bls. old rope.
American Exchange Irving Trust Co., Francisco, Antwerp, 52 bls. bagging.

Press Felts, Press Rolls and Water Removal

For practically all that is known about the various factors that influence the efficiency of the press part of a paper machine the industry is indebted to the valuable studies carried on by F. C Huyck & Sons through Dr. E. A. Rees and E. J. Wilson of their research staff.

The results have been the basis of a number of interesting papers before the Canadian Technical Section and the Technical Association during recent years while the investigation was being carried on and which have also been published as leaflets for distribution.

F. C. Huyck & Sons have now issued the first thirty-six bulletins in attractive book form as Kenwood Bulletin Book making a convenient size of 117 pages.

It will be an extremely valuable book for superintendent, engineer and paper student to have and study as the subject has been handled in a very thorough manner by Dr. Rees and Mr. Wilson.

To Develop Paper City as Airport

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, June 20, 1927.—David E. Harlan, Middletown paper manufacturer and head of the Middletown Airport Committee and chairman of the Bureau of Trade and Commerce and Civic Association, is taking steps to popularize and develop the Middletown airport, north of the city. He conferred the past week with the Middletown post of the American Legion.

The committee was informed that the U. S. Government soon will issue maps descriptive of the Middletown airport, former designations having described the field as an emergency landing.

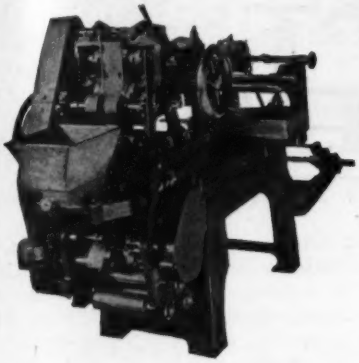
While the paper trade does not expect any immediate results from establishment of the field, members are looking ahead to the development of commercial aviation and desire to have the Paper City on the route. A Middletown paper manufacturer already has his own plane and landing field.

Practical Paper Drying

The Fulton Engineering Company, of Middletown, Ohio, has recently issued a new Bulletin No. 28 which describes practical paper drying.

The Bulletin also describes the "Niagara" Outside Float Level Control which is a distinct departure and improvement over a float resting on the surface of water and can be used for eliminating great quantities of water from paper machines or other steam heated equipment. The Bulletin also describes the Fulton Heating Coil Circulator and Receiver which will improve the circulation in heating coils and also remove the water of condensate and air from them—no traps being used. The Miami Steam Trap is a development of a great many years of experience and eliminates a great many faults that have been found with steam trap and is described in the Bulletin. Also the Demon Steam Pressure Regulator which is very simple and which controls live and exhaust steam. It is so designed and built that it is practically impossible to waste steam where used.

If interested in these developments write to the Fulton Engineering Company, Middletown, Ohio, for their Bulletin No. 28.



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Paper Bag Machinery

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Special Machinery Designed and Built

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STANDARD IN SODA SINCE 1881

Quality and Service guaranteed by the Largest Source of Supply

Soda Ash
Caustic Soda

Over 75 stock distributing points assure prompt shipment with minimum transportation charges.

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The B Co. QUALITY PULPS

HAFSLUND NORWAY — "HAFSLUND BEAR" Bleached Sulphite

F:HAGA — "FORSHAGA" Bleached Sulphite

KRAFT HURUM NORWAY SPECIAL — "HURUM SPECIAL" Extra Strong Kraft

KOOS BAC — "BAMBLE" Extra Strong Kraft

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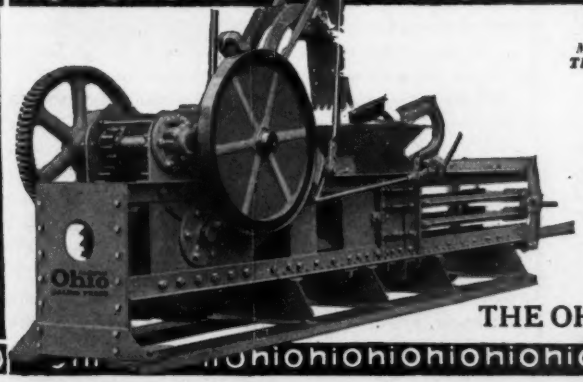

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BALING PRESS

It is the result of 15 years' experience in building baling presses for the largest users of such equipment.
In any service where the requirements are particularly severe this press is well worth the additional investment.

THE OHIO CULTIVATOR CO., Bellevue, Ohio

New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, June 22, 1927.

Some improvement was noticed in the local paper market during the past week. Demand for the various grades was slightly more active and a good volume of inquiries were reported for future business. Considering the time of the year, prices are being well maintained. Sales forces of the leading paper houses are booking a fair number of orders and the usual midsummer slump has not yet set in.

Demand for news print is fairly persistent at present, and the large output being maintained this year is generally being absorbed readily by the publishers. Spot offerings are large enough to take are of current requirements and prices are practically unchanged. Contract shipments continue to go forward in a normal manner.

Steadiness continues to prevail in the paper board market, although the demand has fallen off imperceptibly. Prices are said to be somewhat easier. The fine paper market is moderately active and prices are holding up to schedule. The tone of the coarse paper market is sound and summer specialties and wrapping paper are in excellent request.

Mechanical Pulp

Both imported and domestic wood pulp are in fair demand. Supplies are adequate and prices are holding up to former levels, in most instances, with little talk of concessions. Moist imported mechanical pulp is still quoted at from $30 to $32 a ton, and dry at from $34 to $36 a ton, ex dock, Atlantic ports. Domestic ground wood is selling at from $27 to $30 a ton, f.o.b. mill.

Chemical Pulp

Conditions in the chemical pulp market are fairly satisfactory. Attracted by the easier quotations which have prevailed recently, the paper and board mills have been purchasing somewhat more freely. Shipments of imported chemical pulp are arriving regularly and contract withdrawals are proceeding at a normal pace. Prices are gradually becoming steadier and there is little talk of shading.

Old Rope and Bagging

Domestic and imported old rope are in seasonal request. Offerings are ample and prices remain unaltered from the previously quoted levels. Inquiries for bagging are being received in excellent volume and while trading during the past week was light, the outlook for the future is encouraging. No radical price changes have been recorded recently.

Rags

Demand for domestic old rags is seasonal and most of the business transacted lately has been along routine lines. Cotton cuttings are still going strong, with prices steady to firm. The market for foreign rags remains quiet and unless prices abroad decline in the near future, no improvement in the situation is anticipated.

Waste Paper

While the paper stock market is practically unchanged, stocks at the paper and board mills are believed to be low, and more liveliness is expected to develop in the near future, when raw materials will have to be replenished. Old kraft machine compressed bales and mixed papers are attracting more attention than for some time. Prices on most of the grades are unaltered.

Twine

The position of the twine market is satisfactory. Prices continue to hold up very well and shading is infrequent. The continued excellent demand for wrapping paper is influencing the twine market favorably and while trading will probably fall off a little during the hot summer months, the industry should enjoy a busy period from Labor Day until the end of the year.

Czechoslovak Paper Sales Syndicate

WASHINGTON, D. C., May 31, 1927.—The Czechoslovak paper sales syndicate, which has been under discussion for some months, has finally been organized and will be operated under the style "Verkaufsbureau der Vereinigten Paperfabriken, Ges. m. b. H.," according to advices to the Department of Commerce from Commercial Attache Elbert Baldwin, Prague. The organization has taken the form of a limited liability company, and represents all important producers of news print, wrapping, and graphic papers, and also special grades.

For the present, domestic sales only will be controlled by the syndicate. Quotas have been allocated among individual producers on the basis of 130,000 metric tons annually, the average production for domestic consumption during the past three years. The announced intention of the new organization is not to seek an increase of present price levels, but to effect savings by reducing overhead sales costs. Members are not required to dissolve their existing sales organizations and are permitted to maintain previous contacts with their clients, but transactions are to be reported to the central organization and debitted to quota.

News of the Chicago Trade

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, June 21, 1927—After an absence of eight years, Colter Rule has rejoined the staff of Bradner, Smith & Co. During the interim, Mr. Rule has served as manager of the Whitaker Paper Company, Pittsburgh, Pa., and later as manager of the local branch of the Whitaker Paper Company. More recently he was vice-president of the Dwight Brothers Paper Company.

Roger Little, formerly of the Douglas Wray Paper Company, is now associated with the Dwight Brothers Paper Company.

C. H. Reeves has again resumed active duties at the office of the Paper Mills Company after an absence of a week.

Joe Rowley, of the Chicago Paper Company, has also been out of the office this week on a combined business and pleasure trip.

To Make Paper Novelties

INDIANAPOLIS, Ind., May 24, 1927.—Articles of incorporation have been filed with the secretary of state in Indianapolis by the Nathan M. Stone Company of Marion, Ind. The corporation has an authorized capital stock of $350,000 and is formed for the purpose of manufacturing paper novelties. The incorporators are N. M. Stone, David Newman, W. C. Hollats and A. A. Schwartz.

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the
Manufacture of

New Paper Specialties

or if you are confronted with color problems of any kind, such as fastness to light, fastness to alkali, two-sidedness, please consult our newly equipped laboratories and our experienced staff.

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Manufacturers of
SUPERCALENDERED
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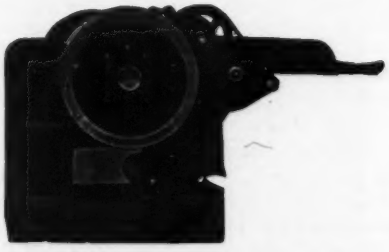

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Factory—NEWARK, N. J.

Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, June 22, 1927,

Conditions in the local chemical market are quite satisfactory for the time of the year. Contract withdrawals continue to move at a steady pace and the record for the month will probably compare favorably with the corresponding period of the previous year. Prices are being firmly maintained by the manufacturers, in most instances, and the outlook for the future is encouraging.

BLANC FIXE.—Most of the business transacted in the blanc fixe market during the past week was along routine lines. Demand for both the pulp and the powder is fairly persistent and prices are holding up to schedule. The pulp is selling at $60 per ton, in bulk, and the powder at from 4⅛ cents a pound to 4⅜ cents a pound, in barrels, at works.

BLEACHING POWDER.—Shipments of bleaching powder are going forward in large volume. Stocks of this product are said to be limited and there is apparently no undue surplus. Prices remain unchanged. Bleaching powder is quoted at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity.

CASEIN.—Trading in the casein market has quietened down somewhat and prices are slightly easier. Offerings are quite large enough to take care of current requirements. Domestic casein is now offered at from 18 cents to 19½ cents a pound, while imported casein is selling at from 18 cents to 18¼ cents a pound, all in bags, car lot quantities.

CAUSTIC SODA.—Demand for caustic soda is very steady and contract shipments are moving in a satisfactory manner. Stocks on hand are rather limited and prices are well maintained. Caustic soda is quoted at from $3 to $3.10 per 100 pounds, in large drums, at works. Spot car lots are offered at $3.20 per 100 pounds.

CHINA CLAY.—The china clay market is practically unchanged. Demand at present is light but contract withdrawals are moving at a normal pace. The quotations on foreign china clay ranges from $15 to $25 a ton, in bulk, ship side. Domestic paper makers clay is quoted at from $8 to $9 a ton, at mine, and pulverized at from $10 to $12 a ton.

CHLORINE.—Business in the chlorine market continues active and the movement on contract is heavy for the time of the year. Prices remain unaltered. Chlorine is still selling at 4 cents a pound, in tanks, or multi-unit cars, at works, on contract. The spot quotation is from 4¼ cents to 4½ cents a pound.

ROSIN.—More interest appears to be developing in the rosin market. Prices continue to fluctuate to some extent. At the naval stores, the grades of gum rosin used in the paper mills are now selling at from $10.10 to $10.15 per 280 pounds, ex dock, in barrels. Wood rosin is still quoted at $9.50 per 280 pounds, southern shipping points.

SALT CAKE.—The tone of the salt cake market is strong and the demand for supplies is quite persistent. Offerings are limited and quotations are steady to firm. Salt cake is still selling at from $18 to $19 a ton, in bulk, at works. Chrome salt cake is offered at from $14 to $15 a ton, in bulk, at works.

SODA ASH.—Consuming demand for soda ash has been excellent since the beginning of the month. The movement of shipments against contract shows no signs of slackening. Prices are holding up to schedule. Contract quotations, in car lots, at works, per 100 pounds, are quoted as follows: in bulk, $1.20; in bags, $1.32½, and in barrels, $1.57½.

STARCH.—The starch market displayed seasonal activity during the past week. Supplies of this product continue to move into consumption at an excellent rate. Prices remain unchanged at the recently reported levels. Special paper makers' starch is still selling at $3.07 per 100 pounds, in bags, and at $3.24 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Little change was experienced in the sulphate of alumina market. Contract withdrawals are being maintained in a normal manner and quotations remain unaltered. Commercial grades of sulphate of alumina are selling at from $1.40 to $1.50 per 100 pounds, in bags, at works, in car lots. The iron free is quoted at from $2 to $2.05 per 100 pounds, in bags, at works.

SULPHUR.—The undertone of the sulphur market is very sound and the demand for this product continues excellent. No price changes have been reported of late. Sulphur is still quoted at from $18 to $19 a ton, in bulk, at mine on contract orders. The spot quotation is $20 a ton.

TALC.—There was a fairly persistent request for talc during the past week and the market is exhibiting a strong tendency. Prices are holding up to schedule and shading is infrequent. The quotations on domestic talc range from $16 to $18 a ton, at eastern mines. French talc is selling at from $18 to $22 a ton, ship side.

Miami Valley Paper Shippers Open Office

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, June 20, 1927.—The Miami Valley Paper Shippers' Association has established offices in the Bureau of Trade and Commerce rooms of the Civic Association in Middletown, it was announced this week, with O. P. Tresslar in charge. Mr. Tresslar is secretary of the organization.

It is pointed out that the establishment of headquarters in Middletown is a step toward the ultimate pooling of paper shipments, to the advantage of paper manufacturers.

Business concerns interested in any phase of paper shipping and rates on paper products, will be benefited by the arrangement, it is stated.

Information will be given to paper manufacturers to enable them to pool shipments advantageously and send out of Middletown, where there is a heavy tonnage of paper. Freight will be received on the same plan; hence it is patent that the arrangement will be of decided interest to the paper trade of this section of Ohio and the Miami Valley in particular.

Secretary Tresslar was chosen because of his peculiar fitness for the post. He has had considerable experience with the handling of freight shipments and rates through his connection with the Baltimore & Ohio railroad. He will offer his services to all mills in the valley who are members of the association.

The Miami Valley Paper Shippers' Association is a comparatively new organization and was the outgrowth of a recent meeting held in a down-the-valley mill center as the result of manufacturers being dissatisfied with railway shipments regulations and conditions and the many disadvantages following the failure of the trade to join their interests and obtain concerted action for their own general good.

Sewall Timber Cruisers Busy

OLD TOWN, Me., June 20, 1927.—B. C. Marsh, of the James W. Sewall force of timber cruisers, has a crew of explorers in the Nipigon region of Ontario, where they will be engaged most of the summer in estimating pulp wood on a large tract of land.

J. D. Latno, of the same office, with several other cruisers, has been in Kentucky and is now in Tennessee, estimating hard woods. Mr. Sewall has just returned to the home office from these latter jobs. The cloudbursts of Sunday night, May 29, in which many persons lost their lives, swept over the area in which this work is progressing, but did no damage there other than sweeping away footbridges across the creeks.

Kenneth McR. Clark, of the Sewall office, has also returned from a short cruising trip in Vermont.

Mr. Sewall reports that this spring's planting work, while nothing at all large, was five times the volume of that done in the spring of 1926.

Clay

300 tons daily

AMERICAN MADE FOR AMERICAN TRADE

Over forty-one years' experience in the clay industry has naturally resulted in the adoption of the most scientific methods and practices. This record of achievement is your guarantee of Clay of absolute uniformity at prices consistent with M. E. quality and service.

Prices of M-E pulverized clay may surprise you even considering this additional treatment.

Let us submit sample and quote you.

THE

MINER-EDGAR CO.

110 William St.,
NEW YORK

Salt for Water Softeners

and all Industrial Uses

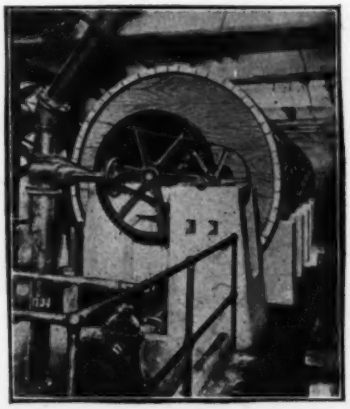
Is your water softening equipment operating at its highest efficiency? It is only if the *proper grade* of salt is being used for regeneration

Ask us for information on this essential factor in Zeolite water softening operation. International Salt, supplied in all softener grades, is uniformly pure and reliable.

In requesting quotation please mention the size and type of softener that your plant is now using.

INTERNATIONAL SALT COMPANY, INC
475 FIFTH AVE., NEW YORK
SCRANTON, PA.

PAPER MILL TANKS



Stuff chests, acid storage tanks, blow pits, vomit stacks, beater tubs, alum tanks, rubber-lined muriatic acid storage tanks, etc., have been built by Hauser-Stander for more than fifty years. This experience is reflected in our tanks.

The Hauser-Stander Tank Co.
Cincinnati, Ohio

Superior Quality

CASEIN

Direct Representatives

Robison Products Corporation

Telephone:
Madison Square 3092-3-4

44 East 25th Street
New York

Market Quotations

Quoted by Hepburn & Co., 74 Broadway, N. Y. City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	OFFERED
Advance Bag & Paper, 7s 1943	103	106
A. P. W. Pulp & Power, 7s 1945	101	102
American Writing Paper, 6s 1947	79	82
Bastrap Pulp & Paper, 6½s 1940	100	103
British Columbia Pulp & Paper, 6s 1950	85	90*
Beaver Products Corp., 7½s 1942	106	109
Berkshire Hills Paper, 8s 1941	60	80
Brown Paper Co., 1st 5½s 1946	94	98
Bryant Paper Co., 6s 1942	100½	102
Cape Breton Pulp & Paper, 6s 1932	101	103
Central Paper Serial 6, 6½s 1942	89	...
Champion Coated Paper, 6s 1926 to 1932	98	...
Champion Fibre, 8s 1930	100	...
Champion Paper Corp'n, 1st 6s 1945	94	97
Continental Paper Products, 6½s 1943	88	91½
Cornell Wood Prod., 7½s 1937	100	104*
Crown Willamette Paper, 6s 1951	97	101
Donnaconna Paper, 6s 1940	100½	102
Dells Paper & Pulp Serial, 6s 1926-38	*95	...
Eastern Mfg. Co., 7s 1938	90	93
Eddy Paper, 7½s 1931	102	104
Escanaba Paper Serial, 6s 1926-39	93	95
Fiber Fibre Serial, 7s 1926-39	95	...
Fort Orange Paper, 7s 1942	95	100*
Fox River Paper, 7s 1931	99	...
Gair Co. (The Robt.), 7s 1937	104	106
Gilbert Paper Co., 6½s 1926-29	89	...
Hammermill Paper, 6s 1939	100	103*
Hoberg Paper & Fibre, 7s 1937	94½	96
Itaska Paper & Prairie River Power, J+5½s 1926-38	94	96*
Itaska Paper 1st, 6s 1933-38	96	98*
Kalamazoo Veg. Parchment, 6s 1938	98	...
Marinette & Menominee, 7½s 1936	101	...
Mead Pulp & Paper, 5% Notes, 1927-37	90	95
Menasha Printing & Carton, 6½s 1939	99½	...
Mengel Company, 7s 1926 to 1934	100*	102
Monroe Paper Products, 7½s 1932	96	...
Munising Paper, 6s 1927-36	96	100
Nekoosa Edwards, 1st Ref. 6s 1928 to 1942	96	99*
Orono Pulp & Paper, 6s 1943	98	...
Orono Pulp & Paper, 5s 1941	94	...
Oswego Falls Corp., 6s 1941	98	100*
Oxford Paper, 6s 1947	100	...
Paepcke Paper Mills, 7s 1930	99	None
Parsons Pulp & Lumber, 7s 1928	97	...
Parker Young Co., 6½s 1944	95	99
Paterson Parchment Paper, 6s 1938	100½	102
Penobscot Chemical Fibre, 6s 1942	98	...
Poland Paper, 7s 1930	98	...
Port Alfred Pulp, 6½s 1943	*96	...
Queens City Paper, 7s 1932	95	100*
Richardson Co., 6s 1938	100	...
Spanish River Pulp & Paper, 8s 1941	106	110
Stevens & Thompson Paper, 6s 1942	91	94
St. Anne Paper, 6½s 1946	95½	98*
St. Croix Paper, 5s 1926-37	95	98*
St. Regis Paper Serial, 6½s 1926-35	98¾	...
Tait Paper & Color Industries, 6s 1934	85	93
Taggart Bros. Co., 6s 1944	94	97
Ticonderoga Pulp & Paper, 5s 1930	95	98
Ticonderoga Pulp & Paper, 6s 1940	98½	100*
Warren (The S. D.) Company, 6s 1945	98	101
Wotab Paper, 6½s 1943	102	...
Westfield River Paper, 7s 1926-43	Wanted	...
Whitaker Paper, 7s 1942	106	108
Witmer-Parsons Pulp & Lbr. (Units)	63	70

STOCKS	BID	ASKED
Advance Bag & Paper, 8% Pfd.	97	100*
Am. Tissue Mills, 7% Pfd.	95	100
British Columbia P. & P., Pfd.	65	70
Brompton Pulp & Paper, 8% Pfd.	93	98*
Brown Corpn., 7% Pfd.	97	100*
Champion Fibre, 7% Pfd.	99	103*
Diem & Wing, 7% Cum. Pfd.	87	...
Donnaconna Paper, Com.	58	...
Donnaconna Paper, Pfd.	95	100
Eastern Mfg. Co., 1st Pfd.	34	37
Great Northern Paper (new)	60	70
Hammermill Paper, 7% Pfd.	105	110
Hinde & Dauch, Com.	135	...
Hinde & Dauch, Pfd.	100	...
Holyoke Card & Paper	150	None
Marathon Paper Mills, Com.	125	...
Midwest Box Co., Pfd. 8%	80	85
Midwest Box Co., Pfd. 6%	55	65
Louis De Jonge Co., 7% Pfd.	93	96
Oxford Papers, Com.	102	...
Oxford Paper Co., Pfd.	100	105
Penobscot Chemical Fibre, Com.	65	75*
Richardson Co., 7% Pfd.	104	...
Rubberoid Company	73	77
Seaman Container, Class B (par $1)	1	None Off.
Seaman Paper Co.	Wanted	None Off.
St. Croix Paper	150	170
St. Regis Paper Co., 7% Cum. Pfd.	97	100
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper, Com.	58	63
West Virginia Pulp and Paper, Pfd.	97	102
Whittaker Paper, 7% Cum. Pfd.	97	103

* Nominal.

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.35	@ 7.75
M. F.	6.25	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	5.25	@ 5.50
Southern	4.75	@ 5.25
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00
(Delivered New York)		
Boards—per ton—		
News	47.50	@50.00
Straw	53.50	@57.50
Chip	45.00	@50.00
Binders' Boards	70.00	@75.00
Sgl. Mla. Ll. Chip.	57.50	@60.00
Wood Pulp	80.00	@85.00
Container	65.00	@70.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	30.00	@32.00
Dry	34.00	@36.00
(F. o. b. Mill)		
No. 1 Domestic	27.00	@30.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.50	@ 4.50
Easy Bleaching	3.05	@ 3.25
No. 1 strong unbleached	2.60	@ 2.85
Mitscherlich unbleached	2.65	@ 3.40
No. 2 strong unbleached	2.50	@ 2.70
No. 1 Kraft	2.70	@ 2.90
Sulphate—		
Bleached	3.75	@ 4.00
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.85	@ 3.05
News Sulphite	2.50	@ 2.70
Mitscherlich	3.25	@ 3.75
Kraft (Domestic)	2.70	@ 3.40
Soda Bleached	3.50	@ 3.75
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.85

Domestic Rags

New Rags

Prices to Mill f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	12.00	@12.50
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.75	@11.25
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	7.25	@ 7.75
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.50	@ 5.25
Pink Corset Cuttings	9.50	@10.00
O. D. Khaki Cuttings	5.25	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75
Old Rags		
White, No. 1—		
Repacked	5.75	@ 6.50
Miscellaneous	4.75	@ 5.25
White, No. 2—		
Repacked	3.25	@ 3.75
Miscellaneous	2.75	@ 3.00
St. Soiled, White	2.50	@ 2.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.65	@ 1.75
No. 1	1.65	@ 1.75
No. 2	1.35	@ 1.45
No. 3	1.25	@ 1.35
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.75	@ 8.50
Unbleached Cottons	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
New Mixed Cuttings	3.00	@ 3.50
New Dark Cuttings	2.75	@ 3.25
No. 1 White Linens	7.00	@ 7.75
No. 2 White Linens	5.25	@ 6.00
No. 3 White Linens	4.00	@ 4.50
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med Light Prints	1.85	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 2.00
Lindsay Garments	1.80	@ 1.85
Dark Cottons	1.65	@ 1.70
Shoppery	1.50	@ 1.60
French Blues	2.25	@ 2.50

Old Rope and Bagging

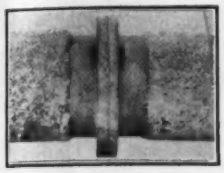
Prices to Mill f. o. b. N. Y.

Gunny No. 1—		
Foreign	1.75	@ 1.85
Domestic	1.80	@ 1.90
Wool Tares, light	1.60	@ 1.70
Wool Tares, heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.50	@ 1.65
Manila Rope—		
Foreign	3.75	@ 4.00
New Burlap Cut	3.00	@ 3.25
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.40	@ 3.60
Hard, White, No. 2	3.00	@ 3.15
Soft, White, No. 1	2.80	@ 3.00
Flat Stock—		
Stitchless	1.25	@ 1.35
Overissue, Mag.	1.25	@ 1.35
Solid Flat Book	1.15	@ 1.25
Crumpled No. 1	.80	@ .90
Solid Book Ledger	1.90	@ 2.10
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.45	@ .55
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.65	@ .75
Container Board	.50	@ .55
Bogus Wrapper	.70	@ .80
Old Kraft Machine		
Compressed bales	2.00	@ 2.10
News—		
No. 1 White News	1.50	@ 1.60
Strictly Overissue	.65	@ .75
Strictly Folded	.47½	@ .52½
No. 1 Mixed Paper	.37½	@ .42
Common Paper	.25	@ .30



Note: Flange Fits Flush. No Metal on Inside.

Changing the Piping of an entire Industry

It is true that Michigan Wood Pipe with Collar Flanges as illustrated is revolutionizing the Paper Mill Industry. Up to date Paper Mills are making the change as rapidly as possible. Some are changing entire Plant piping at once while others are changing line by line in order that production will not be held up.

The advantages are long life, no discoloration, power saving, larger capacity, light weight, easy to install, easy to take apart without damage, and cheaper.

Michigan Pipe Company, Bay City, Michigan

Japanese Papers

JAPAN Hand and Machine made Papers are carried in stock at our warehouse 12-16 Vestry Street. Don't pass up an order for JAPANESE PAPER no matter for what purpose; come to us for samples and prices.

Whitfield Paper Works, Inc.
12-16 Vestry Street
New York, N. Y.
Established 1869

WE WILL BUY

Advance Bag & Paper Co. 7s, 1943	@105
American Sales Book Company 6s, 1939	@101
American Writing Paper Co. 6s	@ow
British Columbia Pulp & Paper Co. Pfd.	@ 65
Champion Paper Co. 6s, 1945	@ 95
Donnacona Paper Co. 6s, 1940	@101
Escanaba Paper Co. 6s, 1939	@ 94
Eastern Manufacturing Co. 7s, 1938	@ 89
Great Northern Paper Company	@ 63
Mead Pulp & Paper Company 5s	@ 92
Oxford Paper Co. Common	@170
Stevens & Thompson Paper Co. 6s, 1942	@ 93
St. Croix Paper Co. 5s, 1927	@ 99½
St. Regis Paper Co. 6s	@100
Ticonderoga Pulp & Paper Co. 6s, 1940	@ 99¾
Tait Paper & Color Industries 6s, 1934	@ 89

WE WILL SELL

Bayless Pulp & Paper Co. Common	@ 25
Champion Paper Co. 6s, 1945	@ 97
Stevens & Thompson Paper Co. 6s, 1942	@ 95
St. Regis Paper Company 6s	@101

H. D. KNOX & CO.

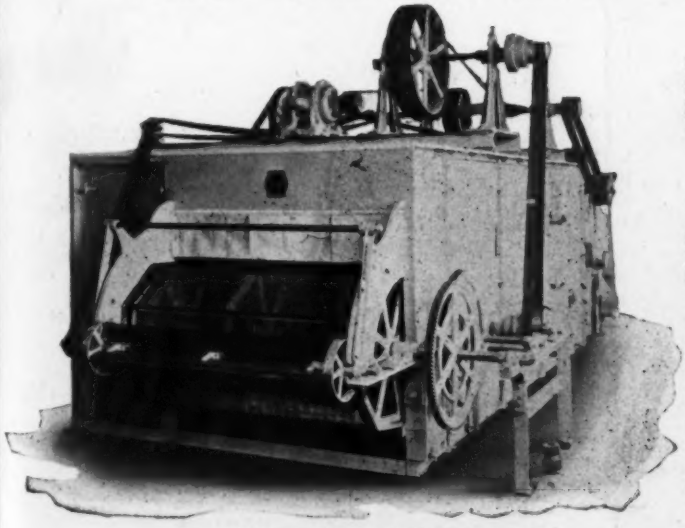
44 Broad St., N. Y. 27 State St., Boston

Inquiries invited on all Paper Pulp Lumber Securities

THE PULP BUYER

WILL TELL YOU WHY

Fidalgo System Dried and Shredded Pulp (Air Dried) IS THE ANSWER



Discharge End of Dryer

Units 10 to 75 ton daily capacity

Producing a compact air dry bale (suitable rail and water shipment 40-45 cu. ft. per ton) of *shredded* pulp.

Higher test than when dried on cylinder machines.

33 1/3 SAVING AT BEATER

GENERAL ADVANTAGES

No Mechanical Pressure used until dry—upon cutting straps at Beater entire bale allowed to absorb rapidly. No surface pressure on wet pulp during drying process. Only current of warm dehydrated air, produces a product that has its surface pores wide open for ready absorption in Beater and produces a pulp testing from 10 to 30 points higher than any pulp dried in sheet form.

LABOR; STEAM, POWER, ETC.

LESS LABOR than any cylinder or mechanical pressure dryer. Less than 3,500 lbs. steam required (either live or exhaust) per ton air dried pulp, with economizer pulp can be dried with waste stack gases.

CLEANLINESS

Pulp being dried in closed insulated compartment—FIDALGO SYSTEM produces cleaner pulp.

USERS

Eight installations in United States and ten on order or under construction.
Your inspection invited.

COST

Less than any Drying Method we know of to install.

Write Us for Particulars

Technical Economist Corporation

40 RECTOR STREET
Telephone Whitehall 5243

NEW YORK, N. Y.
Cable HERENCO

Twines

F. o. b. Mill

Cotton—			
No. 1	.28	@	.29
No. 2	.26	@	.27
No. 3	.24	@	.25
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.03¾	@	.04¼
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.05¾	@	.06¼
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—24x36 Sheet	.07	@	.07¾
White Tissue—20x30 sheet	.07¼	@	.07½
Boards, per ton—(Delivered Central Territory—Plain Chip	45.00	@	47.50
Solid News	47.50	@	—
Manila Line Chip	55.00	@	57.50
Container Lined—(Delivered Central Territory)—85 Test	65.00	@	70.00
100 Test	70.00	@	75.00

Old Papers

F. o. b. Chicago

Shavings—No. 1 Hard White	3.60	@	3.70
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.90	@	3.00
No. 1 Mixed	1.35	@	1.45
No. 2 Mixed	1.05	@	1.10
Ledger & Writings	1.45	@	1.60
Solid Books	1.20	@	1.30
Blanks	1.65	@	1.75
Krafts	1.80	@	1.90
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.80	@	.90
Folded News (overissue)	.65	@	.75
Old Newspapers—No. 1	.55	@	.60
No. 2	.50	@	.55
Mixed Papers—No. 1	.55	@	.60
Roofing Stocks—F. o. b. Chicago, net cash No. 1	30.00	@	—
No. 2	28.00	@	—

BOSTON

Paper

F. o. b. Mill

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¼
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05¾	@	.06½
No. 2 Kraft	.04¾	@	.05¾
Common Bogus	.02	@	.02½
Delivered New England points			
Straw Board, rolls	.009		57.50
Straw Board in Sheets, basis 35s to 70s			53.50
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board bender	75.00	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards (F. o. b. Mills)	70.00	@	75.00
Tarred Felts—Regular, carload lots	65.00	@	—

Old Papers

F. o. b. Boston

Shavings—			
No. 1 Hard White	3.15	@	3.30
White Blank News	1.40	@	1.50
Manila Env. Cuttings	2.00	@	2.25
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.85	@	3.00
No. 1 Soft White	2.75	@	3.00
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.00	@	2.25
No. 1 Books, Heavy	1.17½	@	1.30
No. 1 Books, Light	—	@	1.15
No. 1 New Manila	2.25	@	2.50
No. 1 Old Manila	1.40	@	1.60
Print Manila	.70	@	.80
Old Kraft	1.75	@	1.90
Overissue News	.55	@	.60
Old Newspapers	.45	@	.50
No. 1 Mixed Paper	.45	@	.50
Box Board, Chip	.45	@	.60

Bagging

Price f. o. b. Boston

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.50	@	1.60
Manila Rope—			
Foreign	3.50	@	3.75
Domestic	4.00	@	4.37½
Mixed Rope	1.05	@	1.15
Scrap burlaps	1.35	@	—
Wool Tares, heavy	1.40	@	1.60
Mixed Strings	.90	@	1.05
New Burlap Cutting	2.15	@	2.25

Domestic Rags (New)

Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.11¼	@	.11½
Silesias, No. 1	.07	@	.07½
New Unbleached	.10	@	.10½
Fancy	.05¾	@	.06
Washable	.04½	@	—
Cottons—According to Grades—Blue—			
Blue Overalls	—	@	.07
New Black, soft	.04	@	.04¼
Khaki Cuttings	.05	@	.05½
Corduroy	.03	@	.03½
New Canvas	.09	@	.10

Domestic Rags (Old)

Price f. o. b. Boston

White No. 1—			
Repacked	5.00	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.12½	@	2.37½
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.57½	@	—
No. 2	1.32½	@	—
No. 3	1.22½	@	—
No. 4	1.12½	@	—

PHILADELPHIA

Paper

F. o. b. Mill

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06¾	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.09½	@	—
Manila Sul., No. 1	.04½	@	.06
Manila, No. 2	.04	@	.04½
No. 2 Kraft	.05	@	.05¼
No. 1 Kraft	.06	@	.06¾
Common Bogus	.02¾	@	—
Straw Board	60.00	@	65.00
News Board	45.00	@	50.00
Chip Board	40.00	@	42.00
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	85.00	@	90.00
No. 2, per ton	70.00	@	75.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	66.00	@	58.00
Slaters	70.00	@	72.00
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.55	@	1.70
Best Tarred, 3-ply	2.10	@	2.15
No. 1 Mixed Paper	.65	@	.70

Domestic Rags (New)

Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable	.04	@	.04½
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08
New Blue	.03½	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03¾
New Canvas	.08	@	.09
New Black Mixed	.05	@	.05½

Bagging

F. o. b. Phila

Gunny, No. 1—			
Foreign	1.75	@	2.00
Domestic	1.75	@	2.00
Manila Rope	4.25	@	4.50
Sisal Rope	1.25	@	2.00
Mixed Rope	1.25	@	1.50
Scrap Burlaps	1.75	@	2.00
Wool Tares, heavy	2.00	@	2.25
Mixed Strings	1.50	@	1.75
No. 1, New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.25	@	2.50

Old Papers

F. o. b. Phila.

Shavings—			
No. 1 Hard White	3.50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.80	@	2.90
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.90	@	2.00
Writing Paper	1.65	@	1.75
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.80	@	.85
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.00	@	1.10
Container Manila	.75	@	.80
Old Kraft	2.00	@	2.20
Common Paper	.40	@	.50
No. 1 Mixed Paper	.50	@	.60
Straw Board, Chip	.60	@	.65
Binders Board, Chip	.60	@	.65
Overissue News	.75	@	.80
Old Newspaper	.50	@	.60

Domestic Rags (Old)

White, No. 1—			
Repacked	5.00	@	5.25
Miscellaneous	4.75	@	5.00
White, No. 2—			
Repacked	.03½	@	.04
Miscellaneous	.02	@	.02¼
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.75	@	2.00
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	1.55	@	1.65
No. 2	1.40	@	1.50
No. 3	1.25	@	1.35
No. 4	1.20	@	1.30
No. 5A	.90	@	1.00
B	.80	@	.90
C.	.80	@	.90

TORONTO

Paper

F. o. b. Mill

Bond—			
No. 1 Sulphite	.12¼	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (Carloads)	3.25	@	—
Sheet (carload)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.75	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.25	@	—
No. 1 S. C. (carloads)	8.25	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.75	@	—
No. 1 Coated and litho	14.50	@	—
No. 2 Coated and litho	13.50	@	—
No. 3 Coated and litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.85	@	—
White Rag	5.25	@	—
"B" Manila	5.65	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.20	@	—
M. G.	7.35	@	—

Pulp

(F. o. b. Mill)

Ground wood	28.00	@	30.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	55.00	@	58.00
Sulphite, bleached	78.00	@	80.00
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.30	@	—
Soft White Book Shavings	3.00	@	—
White Blk, News	1.40	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.40	@	—
Solid Ledgers	1.40	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.47½	@	.52½
No. 1 Mixed Paper	.37½	@	.42

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.12	@	.12½
Fancy Shirt Cuttings	.06	@	.06¼